# THE MODERN HOSPITAL

*A Monthly Journal Devoted to the Building, Equipment and Administration of Hospitals, Sanatoriums and Allied Institutions, and to Their Medical, Surgical and Nursing Services*

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## THE MODERN HOSPITAL IN THE CITY PLAN


By PHILIP W. FOSTER, City Planner, Cambridge, Mass.


THERE are few cities of any appreciable size in the United States today that do not have some sort of hospital. In all the larger cities there are many such institutions ranging all the way from the relief station to the large special hospitals built and organized to take care of some one of the many ills from which the human family is suffering.

The modern hospital then is one of the fixtures of our cities and in any broad planning program its location should be taken into account. The chosen site must of course provide for and meet the needs and requirements incident to the operation of the hospital plant, but it also should be in such a location as to be a benefit to the city and an integral part of its plan.

The hospital of today stands for and is an example of efficiency, cleanliness and organization carried out with painstaking thoroughness in all its departments. Various experts are employed in the work, and each contributes some special knowledge and experience to the perfection of the plan. Good architects are employed to coördinate the planning and to make the interiors cheerful and attractive as well as to give a dignified and beautiful architectural expression to the exterior. There are many examples of modern hospitals that might well be classed as monumental buildings.

The grounds of Mendota Hospital, Madison, Wis., are well related to a public reservation on the shore of a lake.

With all this knowledge and thought lavished on the buildings themselves, is it not strange that so little care is so often shown in the selection of the site and its relation to the city plan? And after all is not this the real fundamental problem? For, given a good site, the other problems become fairly simple, and, given a poor site, even the best brain and talent can only try to minimize that which should never have been.

The up-to-date hospital group, well designed, well located and built of permanent fireproof ma-

terial is bound to be one of the lasting and impressive features of the city and often a landmark for the whole surrounding country. At best, the number of really notable buildings in any city is comparatively small so that it is decidedly important that the most should be made of every opportunity. It is only by the proper grouping of such public and semi-public buildings at well chosen points, provided with adequate sites and affording proper settings that the city can reap the full benefit from the often very large sums expended in their erection. Failure to recognize this phase of city building has caused the loss of many thousands of dollars that have been laid out on architectural skill and adornment, located where it is unseen and therefore unappreciated.

## Principles in Selection of Site

This brings us logically enough to the question: What is the best location for a modern hospital and how should it be related to the city plan? And, of course, the answer must always depend on the particular city and the character of the hospital itself. However, there are a number of fundamental principles and considerations that will govern the selection of a site, first from the point of view of those who have the responsibility of operating the hospital, and second from the point of view of those who are interested in the proper development and expansion of the city.

Taking up the problem from the viewpoint of the hospital authorities, the principal requirements of the site would be light and air, freedom from noise and dirt, accessibility, provision for expansion and agreeableness of surroundings. Viewed from the city's side of the question, the considerations that would govern the selection of the same hospital site have to do with the accessibility to the center of population, with the interference of such a tract with growing residence districts, with the installation of public utilities and the extension of thoroughfares, and in general, with the effect of the building group as related to the street vistas and to the surrounding property. These two groups of requirements are in some cases identical and in all cases consistent.

The factors that taken together produce a good residence district would also produce a good hospital site; furthermore whatever works as a benefit to the city would also be, in a broad sense, a benefit to the hospital, and vice versa. Any friction that has come from these two points of view is the result of failure to coöperate in the early stages of the undertaking. Years pass and troubles arise from an attempt to adjust a more or less arbitrarily selected site to subsequent developments that had not been thought out because not foreseen. A few hours spent at the beginning of any project in careful planning and study of the problem are worth weeks of irritating negotiation and compromise later.

To go back to the requirements of a site as set down from the hospital viewpoint we have in the beginning sunlight and fresh air. To insure the first of these two governing factors, the site selected must be of ample size and with topography of such a character as to give the proper orientation. Now the size of the property to be acquired for a modern hospital will vary with the scope of the institution, the size of the city and the character of the surrounding country. However, it is fair to assume that the tract should be at least ten acres in extent and with the larger institutions might run as high as one hundred acres. This also is related to the question of the provision for the expansion of the plant to keep pace with other developments and will be touched on again. A large sized tract will insure an abundance of fresh air; a location on a small hill or eminence, not so high as to be exposed and bleak in winter but high enough to overlook its immediate surroundings, is desirable. A good growth of trees will add greatly to the attractiveness and protection of the site, and by proper thinning and planning can be kept from interfering with the necessary required supply of either light or air.

## Far From Factories and Railroad Yards

Next we have the problem of quiet and cleanliness in relation to the hospital site. To have quiet, the property must be located far from factories or railroad yards and not directly on main thoroughfares or car line streets. Where the grounds are extensive and allow for a considerable setback for the buildings and a wide margin of tree and shrub planting, the nearness of the main street is not an objection and increases the accessibility of the property. The same isolation that prevents noise will also be good insurance against fire from outside causes.

To insure cleanliness the hospital site should be to the windward, or at least out of the line of the prevailing wind from such sources of dirt and soot as factory chimneys, switching yards, or even the busy center of the city. Dirt from highway travel should also be guarded against, but with our modern automobile highways of asphalt or concrete construction this nuisance has been largely abated.

Nearness to the center of the population of the city and easy accessibility are the next factors to consider, for visitors and out-patients must be thought of as well as the regular patients. In the smaller cities where there is no downtown emer-

gency relief station it is even more important that the hospital be not too far removed from the center of life and activities.

Growing things expand, spread out, and our cities are surely no exception to the general rule. The modern hospital plant if it is to be a permanent institution must be prepared to expand and grow to keep pace with the increasing demand from the ever-expanding city population. Even with the present tendency toward decentralization and countryside development, the hospital will remain a special feature that will function better as a collective group than as a series of widely scattered units. Thus while the population ultimately to be served may be spread over a wider area it is not likely to decrease in numbers. The site selected, then, should be either large enough to take care of later needs or so located as to be easily extended in the future. It would be much easier to obtain sufficient land at the beginning than to acquire it later after the money spent in developing the hospital site itself has been reflected in the increased price of the surrounding property. In determining the acreage of the tract it should be borne in mind that modern requirements are continually growing more exacting and that in addition to normal expansion it would be well to provide for a park like treatment, with trees and shrubs, sunny lawn areas and shady groves for convalescent patients, superintendent's house, nurses' home with tennis courts and other means of recreation, and perhaps some garden developments.

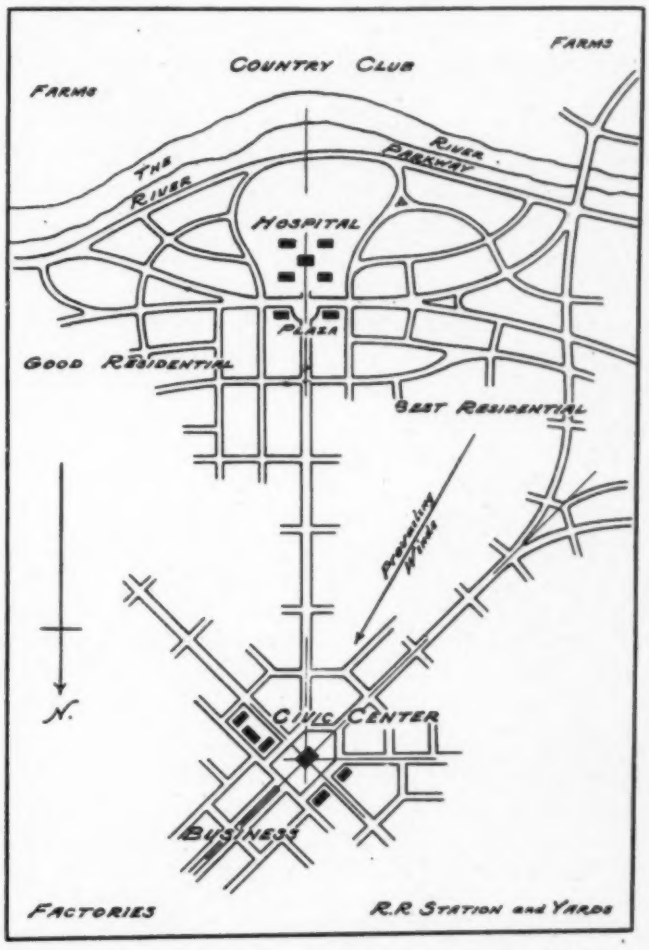


Diagram showing the relation of the hospital to other features in the city plan.

A general plan of the whole proposed plant showing the future scheme with its approaches and service, together with its problems in grading, drainage, planting and other landscape features, would be a great help not only in determining the size of the property to be acquired but also in the location of its boundaries.

In setting forth the requirements of our hospital site no mention was made of the availability of such public utilities as sewer, water, gas and electricity. This was not an oversight. Of course, such facilities are essential to the proper operation of the hospital plant and it is fair to assume that in any modern city they would be easily provided. Any site which for reasons of topography was rendered inaccessible for the city utilities would undoubtedly in itself be a poor location for a hospital. The most common illustrations would be land too low and therefore difficult to drain, or land too high to obtain a good road approach and sufficient water pressure. No progressive city would hesitate to extend public utilities to a good hospital location, as such a development would be a direct benefit to the city and a further ultimate benefit in opening up any intervening vacant land for building, thus increasing the taxable property.

So far we have thought of the hospital and its location from the hospital point of view with only a slight relation to the city's activities as represented in the public utilities. Now what is the city's interest in the matter and what are the problems involved as regards the city plan? Let us put the question another way. Let us assume, a hospital is to be built and the subject of the site has been referred to the city planning commission or planning board by the city authorities for approval. Under these circumstances what should the board consider and how should it judge the proposal so as to fulfill its trust and safeguard the interests of the city as a whole?

To segregate a continuous tract of land of ten acres or more in a growing city and set it aside for a special use is always a problem which may contain a threat to the street circulation system and a barrier to the growth of an entire section of the city. The more central such a location is the

more serious the whole question becomes. Yet the accessibility of the hospital to the mass of the population is an important consideration.

### Residential Section is Best Location

To accomplish this desirable result the site must be in the residential section of the city. Such sections are usually, in the smaller cities, within easy walking distance of the business center. Where there are two or more distinct residence districts, then the location that comes nearest to the center of population and at the same time meets the other requirements, which we will take up, will best serve the city as a whole.

Having placed the hospital property in the residence district, the next step of importance is to see that it does not in any way block the natural expansion of the district. An institutional tract of any size or character always acts as a barrier to other developments. Thus to make its location an asset instead of a liability to any section it should be at one side, out of the line of growth. Here it also will act as a protection against undesirable encroachments, or as a neutral belt dividing sections of different character. A hospital site that stands between a good residence district on one hand and one of lesser character on the other would help both by protecting the better and by adding a desirable open green space adjacent to the more crowded area.

The next important step is to see that the hospital site does not interfere with the extension of any of the main thoroughfares or with the expansion of the utilities systems. This again emphasizes the advantage to the city, as well as to the hospital, of having the property located on a small hill. On the hilltop it is pretty apt to be out of the line of traffic, as the thoroughfares are much more likely to skirt the elevation and not go over it. Such a location is also out of the line of valley drainage for storm water and the natural fall required for main sewer construction.

Again the planning board should see that the property selected does not include land that will in the future be essential to the proper development of the park system. On the other hand, to have a large hospital group adjacent to park property will add to the openness of the park area and increase its apparent extent and its views. A good mass of building or a well designed tower is always a welcome additional point in park vistas.

As already pointed out the number of good monumental buildings in any city is relatively small so that it is very important from the city's viewpoint that what there are shall be as effective as possible. With this point in mind the board should consider carefully the relation of the property to the surrounding streets and study the possible building sites on the property in connection with the street vistas. The setting of the buildings can often be greatly improved by the creation of a small, quiet, open square or plaza at the entrance to the hospital grounds. This will give dignity to the hospital group and at the same time create other desirable sites for public buildings, churches or even good homes. Such a square could easily become a center for the institutional activities of the cities.

### Zoning as a Protection to Hospital

Having once studied and approved a location for a hospital there should rest on the city authorities a moral obligation to protect the institution there established from all surrounding developments that would tend to depreciate the property for its intended use. For the city to locate a schoolground or an athletic field, where crowds of noisy and enthusiastic persons would gather for athletic contests, next door to the selected hospital site would surely be to defeat the first intention and to produce a nuisance and a serious drawback to the welfare of the hospital.

The control of surrounding property by the city so as to prevent the erection of buildings and the establishment of uses, by private individuals, that would become a menace to the usefulness of the hospital is a much more difficult problem. Without a zoning ordinance in force it might be impossible to prevent a private playfield, a commercial garage or even a factory building from becoming the hospital's next-door neighbor. The passage of a zoning ordinance and the mapping of restricted districts in advance of the time that the hospital site is to be determined upon would greatly simplify the work of those who will be responsible for the future welfare of the institution.

The city planning board should do all that is in its power to coöperate with hospital authorities to make the most of the hospital development as seen from the city's viewpoint. The location and establishment of a modern hospital in any city offers great possibilities for increased beauty to the community and, if rightly guided and controlled, contains the germ of a great expression of civic consciousness.

It makes little difference what the problem is that confronts the city; it will be seen after a very little study, that its ultimate solution is intimately related to all the factors that enter into the making of a city plan. And, as has been shown, the location of the modern hospital in a progressive city is no exception to the rule. No sooner do we start to consider the problem seriously than we find it is closely interrelated to the

Henry Ford Hospital, Detroit, with its attractive grounds has been located with some thought as to its relation to its surroundings.

problems of the selection and extension of main thoroughfares, the location of parks, parkways, playgrounds and schoolgrounds, the relation to the civic center, the right use of land and the whole question of zoning. When we consider the far-reaching effects and the seriousness of the decision to be made in determining the right location for a modern hospital group, we will see that it might well be made the reason for inaugurating a movement to undertake a civic survey and to work out a broad comprehensive city plan.

And as the goal of hospital work is the betterment and right physical development of humanity and especially the people it directly serves, so hospital workers could well afford to be in the forefront of the city planning movement in any community. Here they could use their influence and experience in advocating better homes, better schools, better parks and playgrounds and a better organization and coördination of these elements by the adoption of a better city plan.

In this higher sense the modern hospital would be "in the city plan," not merely as regards its own location and its individual relation to the city's activities, but as a worker interested in the right advancement and development of the city in its entirety, as a result of a health growth and clear mental expression of its people.

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## CINCINNATI CONDUCTS MENTAL HYGIENE CLINIC

Attention will be drawn to Cincinnati for the next five years, where has been organized a Mental Hygiene Clinic, in an attempt to get at the underlying causes of mental disorder. Through the clinic there will be studied and formulated preventive measures aimed in general to lessen crime and relieve the ever-growing financial burdens upon city, county and state governments in punishment of criminals, care of mental dependents and delinquents.

One of the original features of the experiment is that it is primarily a civic undertaking of Cincinnati, as it is financed by the Community Chest.

Dr. Emerson A. North resigned as head of Longview Hospital for the Insane to accept the directorship of the clinic. Dr. North has been succeeded at Longview by Dr. E. A. Daber, superintendent of the State Hospital for Insane at Dayton, Ohio.

Associated with Dr. North in conducting the experiment is Dr. V. V. Anderson of New York, associate director of the National Committee for Mental Hygiene. Dr. Anderson is a consultant psychiatrist. He conducted the original survey made in Cincinnati when the movement for the mental hygiene clinic experiment was inaugurated by the mental hygiene council of the Public Health Federation of Cincinnati.

The mental hygiene clinic will work with all courts, schools, social agencies and the medical college and general hospital. The director, Dr. North, has an official position on the teaching staff of the medical college. Wards at the Cincinnati General Hospital will be used for cases to be placed under observation.

The experiment was inaugurated following discoveries made by the public health federation in a survey of the minds of known criminals, habitual dependents, juvenile delinquents and retarded school children. It was found that a big percentage was suffering from one form or another of mental disease or weakness.

The clinic will study all cases referred to it by police courts, juvenile courts, charity organizations and hospitals and prescribe treatment.

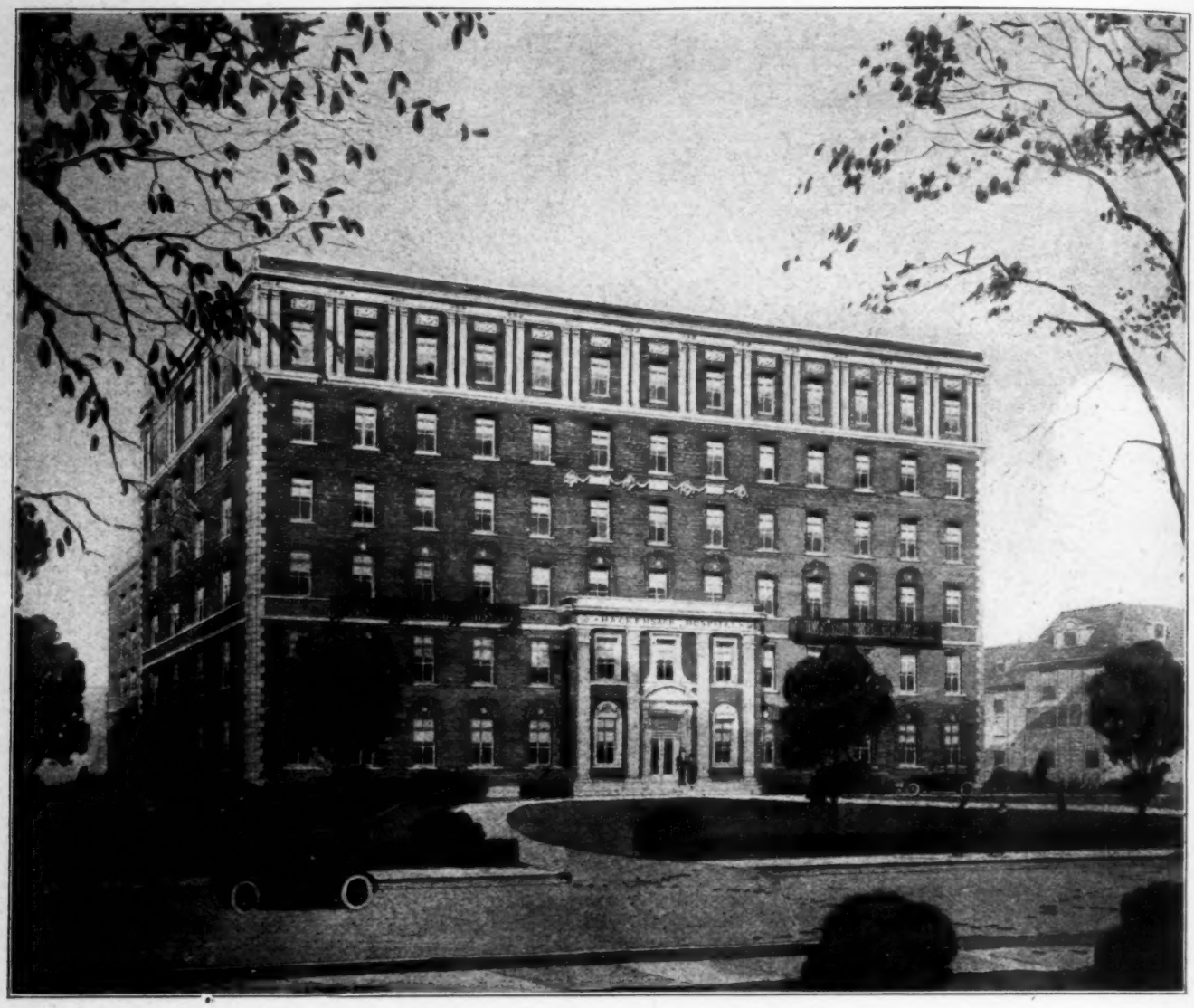
The function of the clinic will be to diagnose cases believed to involve mental abnormalities, prescribe treatment and conduct a follow-up to see that the treatment recommended is carried out. The examination will divide itself into four parts:

(1) An examination of home conditions to determine what factors there are, if any, in the home life of the patient tending to cause or to aggravate his abnormal behavior. This study will be made under the direction of the psychiatric social workers of the clinic (social workers who have been trained in the study and care of mental cases).

(2) A psychological examination to determine the intelligence level, that is, whether the child or adult is of average intelligence, above average, below average or actually feeble-minded. It will also disclose any particular abilities or disabilities that may be of moment.

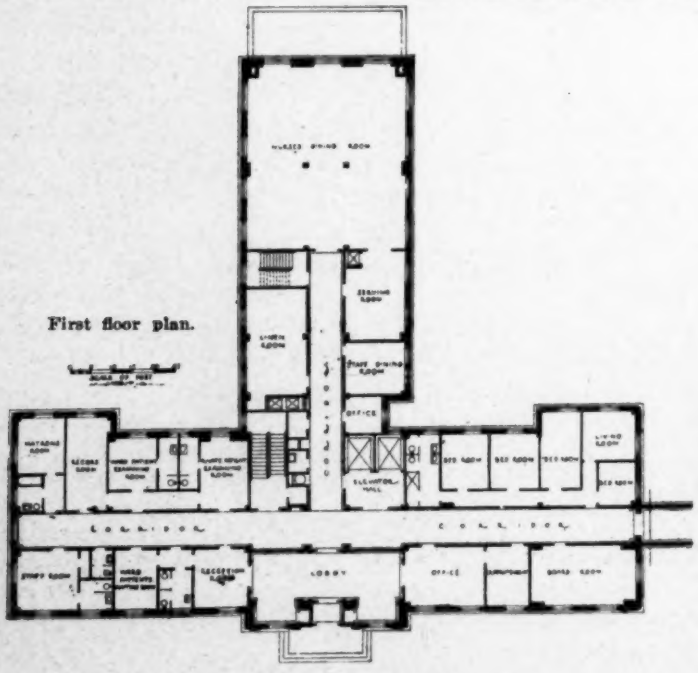
(3) Examination by a physician to determine whether there is anything in the physical condition of the patient that may be causing the mental disorder.

(4) Finally a study by the psychiatrist for evidences of developing mental disease, wrong mental attitudes, mental conflicts or anything else in the thought content of the mind that may be causing the individual's abnormal behavior.

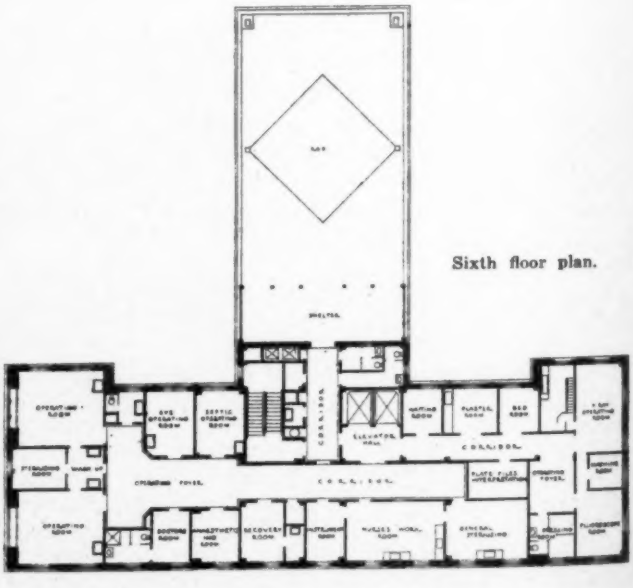


HACKENSACK HOSPITAL, HACKENSACK, N. J.

**Perspective view of exterior, Crow, Lewis & Wick, Architects.**



**First floor plan.**



**Sixth floor plan.**

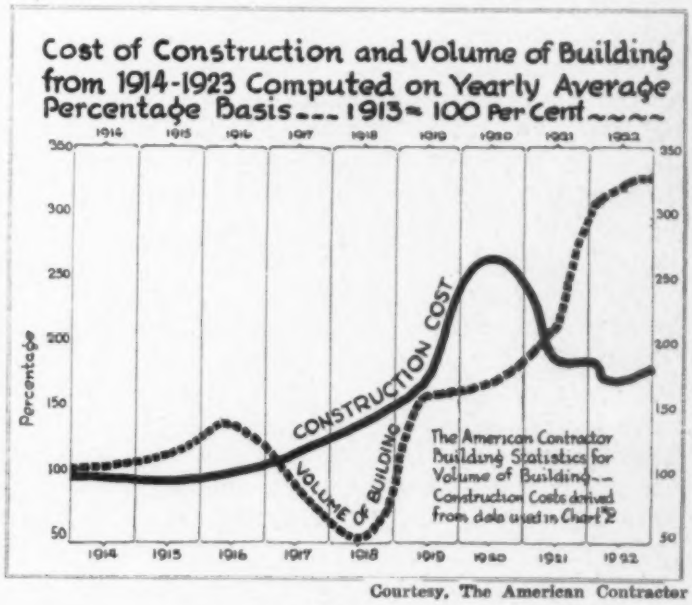
# THE BUILDING OUTLOOK FOR 1923

THE year 1922 was a period of remarkable construction, and it appears that with practically no diminution of volume building operations will continue over into 1923. The actual viewing of operations in a number of cities chosen at random, as well as all available statistics, shows that an enormous volume of winter construction has been going on.

During the normal winter there is a slack of building operations while material producers and dealers build up their stocks. While there have been instances of this going on this year, they are indeed few. In general, very little of the strain on producers to fill orders has been relieved, except as the car shortage has affected shipments.

Just what this situation will mean to spring material prices will depend upon how much of a spring boom is piled up on top of the construction already under way. Although every project which has been executed this winter would seem to relieve the prospective spring boom that much, the fact is that there is no immediate sign of the demand for building being satisfied. If construction costs are such that men feel so free to build as they did during 1922, there is still such a great bulk of embryonically contemplated projects that there promises to be no decline in the volume of work.

A reaction between cost and volume is, of course, inevitable. There will be a great temptation, if volume increases, to raise prices, and in the case of some materials this will be justifiable. But the law of supply and demand will hold back a great number of projects, if building costs rise. The only check on this situation will be the car shortage, and that promises to be less severe this spring, all other things being equal. The cost of construction and the volume of building from 1914-1923, computed on a yearly average percentage basis, is shown in Fig. 1.




Courtesy, The American Contractor

FIG. 1.

NOTE: The computations on this chart are on a yearly basis with the exception that construction costs are plotted for 1922 by quarters. The percentage for any year may be determined approximately by gauging where the percentage line crosses the mid-point of the year. The exact percentages for volume are as follows: 1913, 100; 1914, 102; 1915, 112; 1916, 138; 1917, 91; 1918, 49; 1919, 161; 1920, 173; 1921, 213; 1922, 322.

The index figures on construction costs have been by years beginning with 1913, 100, 98, 97, 103, 120, 144, 178, 269, 193 and by 1922 by quarters, first, 192; second, 176; third, 176; and fourth, 181.

## Activity Dependent Upon Labor Costs

Labor is a greatly underestimated item in discussing building costs. The cost of labor enters not only into the high production costs of all materials, but into the cost of actual erection. Labor costs, in this connection, are not the wage per hour or day, but the wage per unit of production. Labor is contributing to high costs by effectually demanding high wages and by having reduced the standard of production. Even in the question of transportation, a sore thumb in all American business, the question of labor costs is the underlying shibboleth. Railroad labor costs and material production costs reflect upon the construction industry in the same measure as the labor costs of actual construction.

Because of the great volume of winter construction which has been carried on, construction labor has not received its usual winter lay-off. On the contrary, many building trades have gone through the winter on bonus scales. Although twelve months of work promises much for the building industry and should be encouraged, in this particular year its good effects will not be evidenced, since no psychology has been built up about it. The workers look upon it as an extra slice of cake instead of a custom, and wage scales have not been set with the idea of having the men productive the year around. Wage scales, some day, may take into consideration the fact that work may proceed on a twelve-month basis.

In San Francisco and other places where scales have been promulgated, contractors have been confronted not by men anxious to get back on the job, but by workers who have been continuously on the job and know that from east to west contractors will pay laborers' fares to get them on payrolls with satisfactory bonuses. This is the situation to be met when contractors make wage agreements for next year.

Any great spring boom will intensify this condition. But it will be a fatuous policy on the part of construction labor to make greater demands this year in any case in which wages were quite high last year. Nothing will kill the building spirit more quickly than a recognition in any city that labor has through sheer force held up construction far greater than its now great burden.

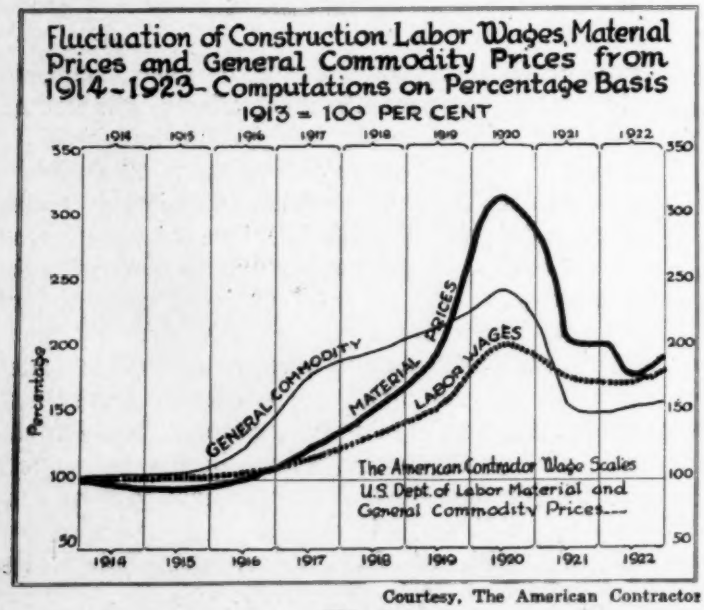
It is generally conceded that the cost of construction is plenty high enough, it being roughly 80 per cent higher than in 1913 and about the same per cent lower than in 1920, and to increase costs even by a narrow margin would mean the deferring of many projects. If labor brings such a condition about, it will have itself to thank for precipitating many of its own members into unemployment.

The gist of all this discussion is that labor, both in and out of the construction industry, can by its wisdom or folly make or mar building activity in 1923.

## Upward Tendency in Material Prices

As important as the labor factor is the item of construction costs. During the past four years the market for basic materials has followed a highly involved course. Not yet has the point been reached when the majority of people think that business and building are proceeding on a long time level. It is expected that big changes in prices may come about in the future.

A considerable degree of stability has been established in the prices of four basic construction materials, and whatever the next four- or five-year period has in store, the outlook for this spring at least is a firm market. The four materials which furnish a basis for Fig. 3 are lumber, cement, common brick and structural steel. The chart shows the price changes by quarters during 1913 and during 1922.




Courtesy, The American Contractor

FIG. 2

Brick is the only material which stood lower during the last quarter of 1922 than it did during the last quarter of 1921. Cement in 1922 closed at 92.8, taking the average price of the materials during the first ten months of 1921 as the base price, or 100 per cent. Steel closed the year 1922 at 97.9 per cent, whereas it closed in 1921 at 76. Lumber closed in 1922 at 127.5, and at the end of 1921 it was but 103 per cent.

An upward tendency during the early part of this year may be anticipated in material prices, as in the case of labor's wages. The general trend is upward, and a strong demand will never bring it downward.

The year 1923 will not be a good time for excessive profit-making. Just as labor can, if too aggressive, cut off its own nose, so to speak, similar tactics on the part of any of the other factors in the building industry will result damagingly. A big boom may become a boomerang.

As to lumber, there is not much fear that the interests controlling it will willingly see the product soar to such heights as it did in 1920, even in the face of big demand. Far-seeing lumber men know that when lumber prices are too high, people find the most use for lumber substitutes, and lumber has more competition than ever before.

More activity in the steel industry is anticipated this year than there was in 1922. The trend of structural steel is distinctly upward. The percentage price as shown in Fig. 3 during the first quarter of last year was 71, while it closed the year at 98.

Because of its wide ranges of use, the price of steel varies in correlation with business activity. Automobile production, farm and industrial machinery production, and building, all affect the steel market. The result is that the price of structural steel is affected, not alone by the volume of construction, but by the general market, which seems to be firm. Producers predict a rising market.

During 1922 the stock of cement was far below that of the previous year because of the coal and rail strikes which combined to harass the cement industry. No construction material is more dependent upon coal than is cement, and this industry is the fourth largest coal consumer of all industries. About 200 pounds of coal are required in the manufacture of each barrel, and every time the cost of coal rises one dollar per ton, the cost of cement rises on that account ten cents per bar-

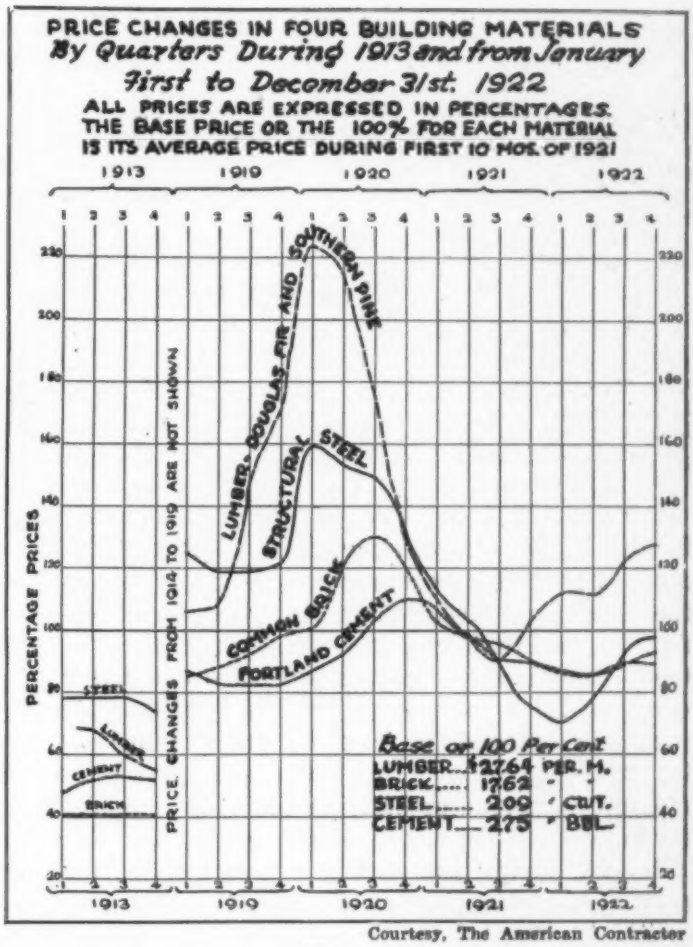
rel. Not all, by any means, of increased costs due to the coal strike have been passed on to the consumer. Thanks to a highly concentrated industry there has not been violent price fluctuation. So far as coal costs are concerned the cement industry has passed the critical stage, and it seems able to draw all coal supplies needed.

## General Commodity and Material Prices

Logical discussion of material prices is impossible without reference to general commodities and material prices has progressed from 1914 to 1923. The computation, of course, is on a percentage basis, as that is the only way the relationship can be shown. The base in each case is the price of the valuation in 1913.

That general prices will rise during this year is the belief of prognosticators. Every consideration is being given to machinery to finance farmers, and this in itself will be a supporter of a firmer price level. An inflative influence may be traced to such factors as gold supply and the big Federal Reserve ration supply.

One cannot ignore the part that heavy income taxes play in keeping up price levels, although little explanation seems to be necessary to bring home the fact that taxes add to the living expenses of the nation and consequently to labor costs. Income taxes also add to the production cost and distribution cost of all materials. We had a war and we must pay for it.




Courtesy, The American Contractor

FIG. 3.

NOTE: This is probably the first chart published showing 1913 prices on a percentage basis using post-war prices as 100 per cent. The graphs are all based upon figures appearing in the weekly material price quotations of the American Contractor. Lumber and steel prices are F. O. B. mill. Cement and brick prices are average price to contractors in carload lots in fourteen principal cities.

It is a question whether the level of general commodity prices will rise to the level of material prices, and this question can be answered only after the event has occurred. It is almost certain, however, that the disparity will not be increased even if building prices themselves rise slightly.

Fig. 1 shows the volume of building in twenty of the most important cities of the United States. The total volume of building permits in these twenty cities issued during 1913 is taken as 100 per cent, and then the activity of each subsequent year is figured on a percentage basis. The nearer the coincidence of the volume line and the cost line, the nearer does the actual volume of construction approach the actual volume of 1913, it can be seen. The volume in the last year has been high above the 1913 level.

## Contractors Learn Business Methods

Material prices have not skyrocketed as a result of the unparalleled boom of 1922. The cost of labor, it is true, is high, but through wise and constantly more efficient managerial direction the production of labor has been increased through scientific and practical coordination. Perhaps this is the most important message for those who wish to foretell what is in store in 1923. For the contractor who wishes to make contracting less of a guess and more of a business proposition, job coordination and the wise use of up-to-date equipment on a cost accounting basis have done much. Never have contractors stood on the threshold of a new year with so much of the real fact basis of business method in mind and in operation.

During 1922, a year of more than normal activity, material market did not run away, and this condition is best for prosperity of an abiding nature. In 1923 we might better have less building with more stability, than more building with less stability. A slump will follow a wild boom with rapidly rising costs, but activity holding to the good foundation levels established last year will be of an enduring nature.

Statistics prepared for THE MODERN HOSPITAL

## Contracts Awarded for Hospitals and Sanatoriums

| District | 1920 No | 1920 Cost | 1921 No. | 1921 Cost | 1922 No. | 1922 Cost |
|---|---|---|---|---|---|---|
| Boston | 45 | $ 3,310,300 | 59 | $ 7,219,200 | 70 | $ 8,998,200 |
| New York | 122 | 9,811,700 | 97 | $ 8,217,300 | 111 | 22,567,300 |
| Philadelphia | 60 | 4,597,400 | 91 | 10,201,000 | 96 | 9,871,200 |
| Pittsburgh | 56 | 7,693,800 | 76 | 9,168,100 | 55 | 5,532,400 |
| Chicago | 121 | 14,968,100 | 118 | 16,864,800 | 134 | 23,244,800 |
| Minneapolis | 25 | 1,417,100 | 21 | 3,552,000 | 19 | 1,293,500 |
| Total | 429 | $41,798,400 | 462 | $55,222,400 | 485 | $71,507,400 |

## Contracts Awarded for Homes and Institutions

| District | No | Cost | No. | Cost | No. | Cost |
|---|---|---|---|---|---|---|
| Boston | 20 | $ 1,014,100 | 20 | $ 885,700 | 22 | $ 1,135,000 |
| New York | 40 | 2,982,400 | 39 | 5,690,500 | 52 | 3,876,300 |
| Philadelphia | 34 | 1,197,700 | 43 | 1,347,500 | 50 | 2,771,800 |
| Pittsburgh | 21 | 1,335,500 | 32 | 1,758,900 | 43 | 2,974,800 |
| Chicago | 33 | 1,691,000 | 45 | 4,970,800 | 63 | 4,045,500 |
| Minneapolis | 11 | 523,700 | 6 | 219,000 | 3 | 318,000 |
| Total | 159 | $ 8,774,400 | 185 | $14,872,400 | 233 | $15,121,400 |

by the F. W. Dodge Company, statistics which cover the territory north of the Ohio and east of the Mississippi rivers, show that, with the exception of the Pittsburgh and Minneapolis districts, there has been an increase—in some districts a very decided increase—in the number of building contracts awarded for hospitals and sanatoriums in 1922 over 1921. This statement is in large measure also true of building contracts awarded for homes and other institutions.

Indeed during the past four years there has been a steady increase in the volume of building contracts awarded for this class of construction. For the territory covered by the Dodge statistics, building contracts actually awarded for hospitals and sanatoriums in 1919 amounted to $32,009,782; in 1920, to $41,798,400; in 1921, to $55,222,400 and in 1922 to $71,507,400. There was a similar upward trend in the building contracts awarded for homes and institutions. In 1919 these contracts amounted to $7,181,841; in 1920, to $8,774,400; in 1921, $14,872,400; and in 1922, to $15,121,400.

Despite this steady increase, much of the work in this class of construction was held up in 1922 and this accumulated demand will undoubtedly greatly augment the normal requirements of 1923.

## Contemplated Projects in 1922

| District | Hospitals and Sanatoriums No. | Hospitals and Sanatoriums Cost | Homes and Institutions No. | Homes and Institutions Cost |
|---|---|---|---|---|
| Boston | 91 | $11,803,700 | 38 | $ 1,879,000 |
| New York | 158 | 34,009,200 | 65 | 4,249,900 |
| Philadelphia | 111 | 7,438,000 | 72 | 5,229,000 |
| Pittsburgh | 83 | 11,207,900 | 54 | 12,350,800 |
| Chicago | 217 | 29,718,300 | 117 | 42,465,000 |
| Minneapolis | 27 | 3,078,500 | 16 | 728,000 |
| Total | 687 | $97,255,600 | 362 | $66,901,700 |

The height of ability consists in a thorough knowledge of the real value of things, and of the genius of the age in which we live.—Rouchefoucauld.

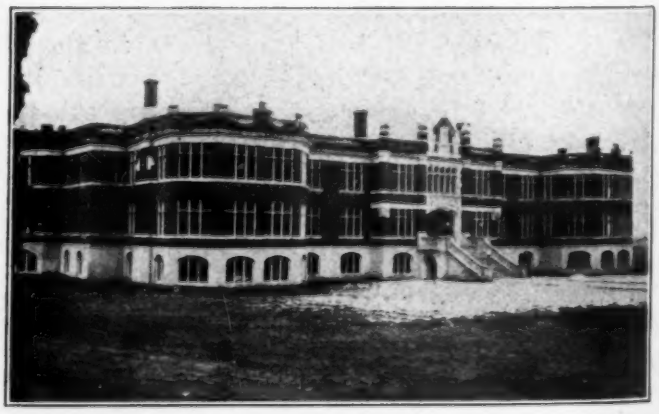
## ASSOCIATION TAKES OVER JOURNAL

The board of directors of the Hospital Social Service Association of New York City, Inc., have announced that the magazine, *Hospital Social Service*, which formerly was published under the auspices of the association is henceforth to be published by the association. A publication committee consisting of members from the board of directors, representatives from the auxiliary section and hospital social service workers will be formed and it will direct the policy of the magazine. Dr. E. G. Stillman, former editor and publisher, still continues as editor.

## A. H. A. REVIVES SECTION ON SMALL HOSPITALS

In answer to a demand, the American Hospital Association, through its board of trustees, has voted to reestablish the Small Hospital Section, and it will present a program at the annual session in Milwaukee in late October. The growth of the association has increased the support and material available to all sections, and the rapid extension of the hospital field through the opening of many small community hospitals has extended the need for this material, especially that relating to the smaller hospitals.

Miss Jessie E. Catton is the new superintendent of New England Hospital for Women and Children, Boston, one of the oldest institutions in the state. Miss Catton was formerly superintendent of the Lawrence General Hospital, Lawrence, Mass.



A new building recently has been opened at the Utah State Mental Hospital at Provo, which contains up-to-date facilities for treatment and recreation

# THE RELATION BETWEEN HOSPITAL BUILDING COST AND COST OF EQUIPMENT

By S. S. GOLDWATER, M.D., Director, Mount Sinai Hospital, New York, N. Y.

HOSPITAL executives, consultants, and architects are often requested to state the proper proportion of expense between building cost and the cost of hospital equipment. This is really an unanswerable conundrum, for, in the first place, no two hospitals are quite alike in plan, construction, departmental organization or character of equipment, and in the second place, no two building and equipment committees ever mean quite the same thing when they use the terms "building" and "equipment." While many of the factors that cause marked variations in the calculation are sufficiently obvious, it may be worth while to cite a few of them.

Committee "A" charges both site and construction against building cost, because the "building fund" pays for both; Committee "B" starts its building fund with a site in hand; it, therefore, excludes site, and reckons the cost of construction only. Committee "A" regards the fees of architect and hospital consultant as items of building cost; Committee "B," or its accountant, reasons otherwise. Hospital "A" erects a building of the highest character, and then, owing to a depleted pocketbook, equips it poorly; Hospital "B" does not represent the highest type of construction, but has an equipment of unusual excellence. The market prices of building and equipment items do not rise and fall equally or simultaneously; building contracts may be let in a "tight market while equipment orders are placed in an easy one.

## Private Room and Ward Equipment Varies

Turning now to types of equipment, is it not evident that private room equipment is one thing, ward equipment another? The proportion of private room and ward beds is, therefore, a factor of capital importance. The equipment provided for an individual patient in a private room may include a specially constructed bed, a hair mattress of superlative quality, a costly dresser, a night table, glass tops for dresser and table, a wardrobe, curtains of chintz, cretonne, or casement cloth, cheap washable domestic rugs or costly oriental ones, a leather-covered upholstered chair, a foot-stool, an individual dressing tray, a wheel chair, an electric fan, a reading lamp, numerous changes of costly bed linen, four or five pillows, and a complete assortment of bed utensils for individual use, the whole representing a far more elaborate outfit than any hospital thinks of providing for a single ward patient. How can any normal figure be given for all hospitals when a given hospital may include many private rooms, few, or none?

But even if the distribution of private and ward beds were the same, uniform standards of expense could not be established, for some hospitals like cheap furniture, which in others is taboo. Or, again, this hospital has an elaborate department of physiotherapy, that hospital has none; or while one hospital puts in hydrotherapy when building and charges the cost to building account, another installs the department later, after the major building account has been closed. Refrigerators may be structurally installed and charged to construction account, or unattached ice boxes may be used and may properly be listed as equipment; they may be lined with porcelain, glass, or galvanized metal, and may be well or poorly insulated, with variations of 100 per cent in cost. Furthermore, the question of relative cost of building and equipment is frequently propounded when only a fragment of a hospital or a subordinate building designed for special use is being built, which adds to the chances of misunderstanding; an extreme case is that of a building designed wholly for pathological laboratory or x-ray work, the equipment of which may be as costly as the building itself.

## Rough Proportion is $1 to $10

If a hospital tiles all its service rooms, the cost of building jumps up, and the relative expense of equipment falls (but not the subsequent cost of maintenance).

Some hospitals include lighting fixtures under building cost; others classify this item as equipment. Kitchen and laundry equipment may be charged entirely to building, entirely to equipment, or partly to one and partly to the other; the prevailing practice, however, and in my opinion the correct one, is to charge against building account all attached and built-in fixtures, whether of a general character, such as plumbing fixtures, or of a special kind, such as major laundry and kitchen equipment.

A special word of caution to hospital accountants and statisticians may well be interpolated against the not infrequent practice of accepting furnishings or equipment as donations in

kind, and leaving their market value out of the reckoning entirely.

But I have not yet answered the question. A rough formula which has sometimes been used under compulsion, but which may be totally misleading, is $1 of equipment for every $10 of building cost. The need for caution in the use of this formula deserves special emphasis. That it is not a safe formula for universal use is evident. If important items of fixed equipment are charged against equipment account, if the hospital is designed wholly or chiefly for private patients, or if the diagnostic and therapeutic equipment is unusually generous, a larger relative allowance must be made for equipment.

## WARNS AGAINST GOVERNMENT SURPLUS SUPPLIES

Warning that the purchase of government surplus supplies of any character "is questionable economy" is given the hospitals by the special investigating committee of the American Hospital Association, of which Dr. Winford H. Smith is the chairman.

Several classes of these supplies should not be purchased at any price, says the committee, until they are carefully tested by the hospital or by the government.

Recognition of the fact that government surplus supplies had now become several years old and for this reason some have deteriorated led to the appointment of a committee to go into this matter for the protection of hospitals. It also was noted that the more recent sales by the government simply offered the goods "as is," requesting bids on this basis. Practically all hospital supplies purchased from the government are promptly offered by dealers for sale to hospitals in some form and at prices but little below the market regardless of the sales price.

President Bacon of the American Hospital Association has written the proper officers of both the army and navy protesting against the sale of hospital supplies which may have become deteriorated, without careful examination and test by the government and has requested that all supplies so tested shall be so marked as to be conclusive evidence to the ultimate purchaser that the goods had been tested and found in good condition.

The text of the committee's report, signed by Dr. Winford H. Smith, superintendent of Johns Hopkins Hospital, Baltimore; Thomas Howell, superintendent of New York Hospital, New York; and Dr. Joseph B. Howland, superintendent of Peter Bent Brigham Hospital, Boston, is as follows:

The committee appointed to deal with the question of the sale of surplus hospital supplies by the army and navy recommends that the members of the American Hospital Association be circularized by the executive secretary warning that many of the supplies such as drugs, chemicals, acids, rubber goods, ether, catgut and other articles of a similar nature which have been held in stock for a considerable period of time are likely to have deteriorated, and that in the opinion of the commttee it would be a questionable policy and a doubtful economy to buy such goods without careful examination and testing.

It is also recommended that the attention of the members of the association be called to the fact that doubtless the bulk of the surplus goods will be bought by jobbers and that hospitals should in the future be suspicious of goods offered at unusually attractive prices coming from irregular sources.

In general it is the opinion of the committee that purchase of world war army and navy supplies of any character at this late date is a questionable economy and should be done only after very careful inspection.

It is also recommended that the president of the American Hospital Association address a communication to the surgeon generals of the army and navy protesting against the sale of such surplus supplies which may have deteriorated or be of inferior quality, unless and until a careful examination has been made by government authorities to determine their satisfactory condition.

Failure is often that early morning hour of darkness which precedes the dawning day of success.—Leigh Mitchell Hodges.

The new $3,000,000 University of Michigan Hospital at Ann Arbor will look like this when it is finished. New appropriations are awaited to make its completion possible.

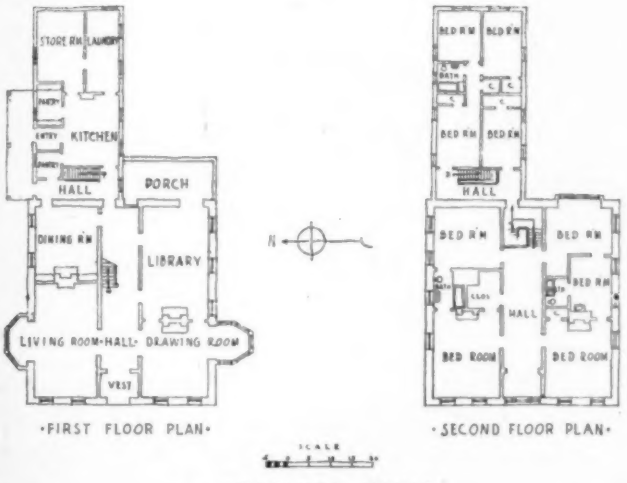
# CONVERTING AN OLD HOUSE INTO A HOSPITAL

By CARL A. ERIKSON, of Richard E. Schmidt, Garden & Martin, Architects, Chicago.

"A red brick immensity with gray sandstone lintels and a roof of slate in courses of red, green, and dyspeptic yellow. There are two anemic lowers, one roofed with copper, the other crowned with cast iron ferns. Most of the castles of the testy Victorian tetrarchs are gone now or decayed into boarding houses, but the Eathorne Mansion remains virtuous and aloof, reminiscent of London, Back Bay, Rittenhouse Square. Its marble steps are scrubbed daily, the brass plate is polished reverently, and the lace curtains are as prim and superior as William Washington Eathorne himself."—*Babbitt*, Sinclair Lewis.

NO VILLAGE is humble enough to be without one. For they were built by the "very best people" during the dark ages of architecture, the '50s to the '90s. Its large rooms, wide halls, substantial foundations and walls, heavy timbers and wide trim of black walnut certify to its early vintage, to an era of legendary low costs. It has been frequently "modernized" during its half century, electric lights (in open wiring), a number of changes in plumbing fixtures, some lavatories added; the fashions of the passing years are all reflected in one room or another; if not visible, probably buried.

It was just such a house as this that the Penult Hospital Association found on its hands upon the death of one of its leading citizens.




Not so many years ago the stables were remodeled to care for the owner's fleet of automobiles; the hay loft became quarters for the two families in the service. At the same time the old furnace in the house was junked and a modern hot water heating plant installed in the basement under the garage.

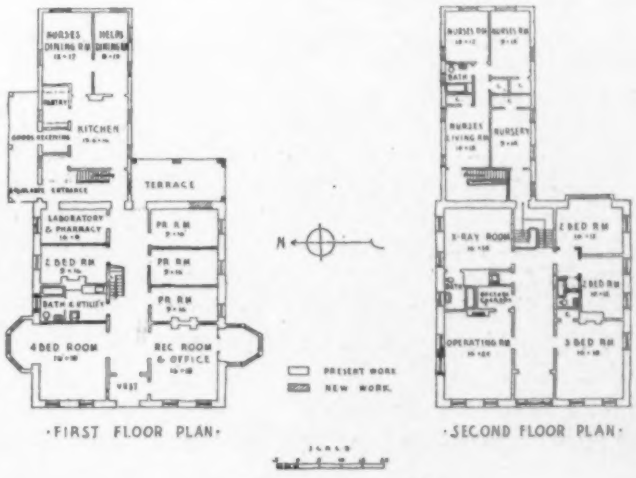
Originally the grounds contained about 25 acres, all carefully planted and tended. At the beginning of this century the owner gave all but about two acres around the house to the city as a public park; the house on a slight elevation overlooked the beautifully matured trees.

## Bequeathed House But No Funds

The announcement of the bequest set the "Main Street" hospital association agog. The hitherto desultory and spasmodic agitation for improved hospital facilities had never accomplished anything. A hospital, a remodeled frame dwelling of ten beds owned by one of the physicians, was not only a fire trap but had hardly any of the diagnostic or treatment facilities that distinguishes a hospital from a boarding house for the sick. Fortunately there was ample time for deliberation and decision during the period before actual possession of the property was obtained.

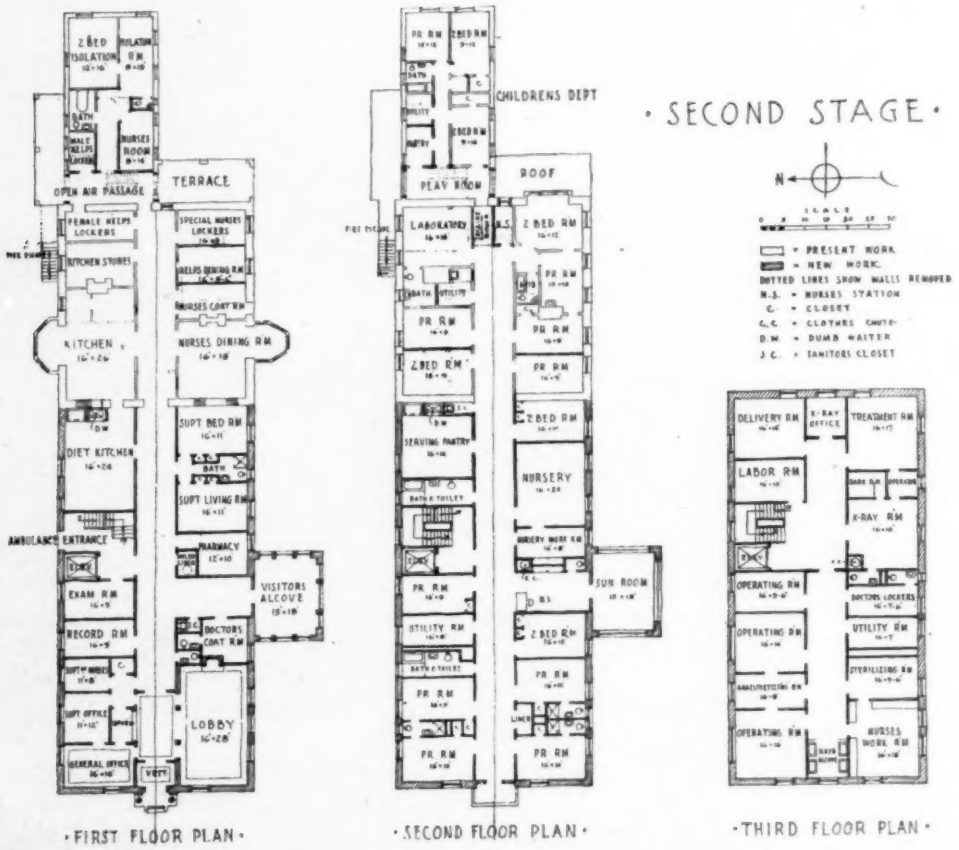
The city of Penult is located in one of the middle western agrarian states. An original population of native American stolidity and independence has been diluted by an addition of emigrants necessary at the factories of the town. The wealth of the town is fairly well distributed, no abnormal amount of either poverty or wealth. One-family houses prevail although there are a few "flats," and some apartments; the "kitchenette" has not yet made its appearance. A few bachelors live at the hotel. Careful survey of Penult and its environs indicate an immediate need of forty beds to serve its 8,000 and the 2,500 nearby.

Unfortunately the donor neglected to leave any money for remodeling the house into a hospital or for its equipment and endowment. He wisely provided, however, that the hospital should be known as the Penult Hospital and not as a personal memorial.



While the survey indicated an immediate need of forty beds, it was deemed wise to give this to the community in homeopathic doses, rather than in allopathic. The architects were instructed to prepare sketch drawings for a completed development of between fifty to sixty beds with all necessary accessories of a complete hospital. The understanding was that it would be built in sections or units.

A survey of the property indicates that a start could readily be made in the existing buildings and could in time be used in the larger hospital. The budget of the first stage reads like this:—




| | |
|---|---|
| Remodeling house into hospital | $12,500 |
| Equipment | 10,000 |
| Operating capital | 2,500 |
| Total | $25,000 |

The hospital with 16 beds and four cribs opened on Feb. 1, 1923 (See drawings, Stage I.) Within a very short time (October, 1923) it was badly overcrowded. The board had wisely appointed a wide-awake publicity committee who thoroughly "sold" the city on the needs for a larger and better hospital.

The first remodeling was a simple one; the 50 to 60 bed goal was never out of sight. New electric wiring was necessary throughout, some additional plumbing, but it was mainly a question of removing rather than adding. Wainscoting, walnut, mahogany and pine, silk wall coverings, beautiful wall paper, elaborate electric light fixtures, marble fireplaces, a few scroll saw grilles, and much of a similar nature, had to go. The beautiful parquetry floors were generally left, though in toilets, etc., they too were removed and a tile floor substituted. The service wing of the house had soft pine floors and a new linoleum was added. A number of partitions and a few new doors were added.

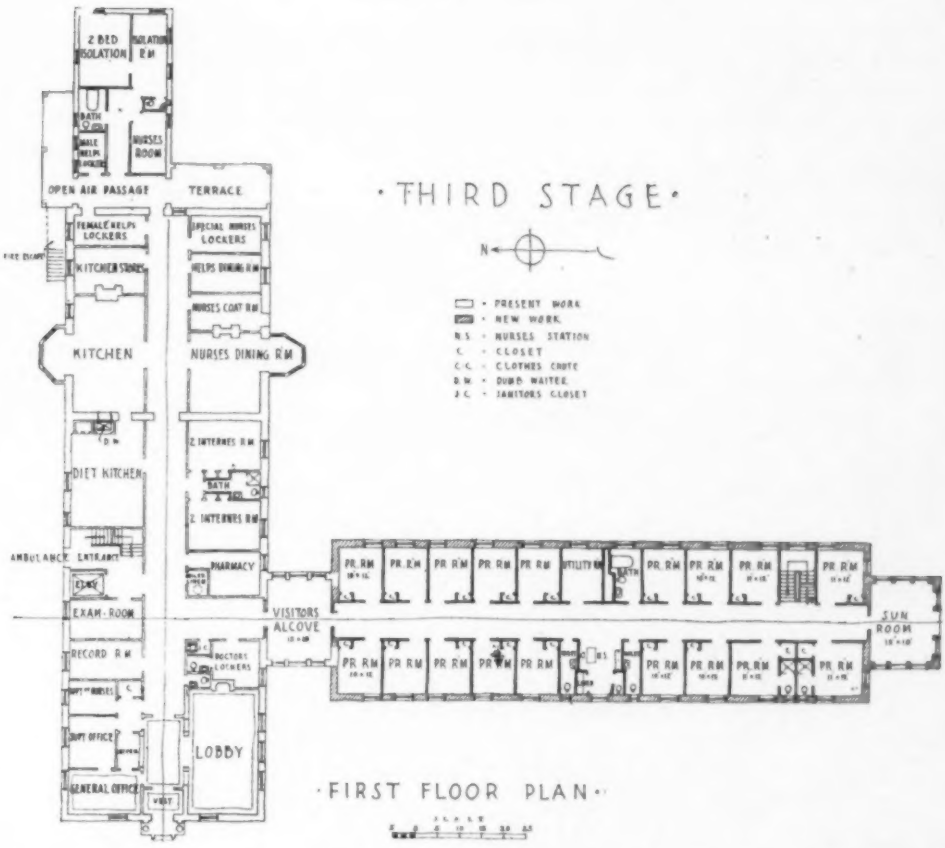
As the cost of the first stage had been financed by a very few people the board felt justified in going to the public for a very much larger sum in January, 1925. The publicity committee through its clever work had kept the town well informed as to the needs and after much hard work the budget of the second stage was raised. In addition to the construction of that work shown on the drawings (Stage II), allowance had been made for an addition to the old garage for new and larger boiler rooms (the old garage served as laundry throughout, the adjoining stable being converted into a linen and sewing and mattress sterilizing room at the third stage).

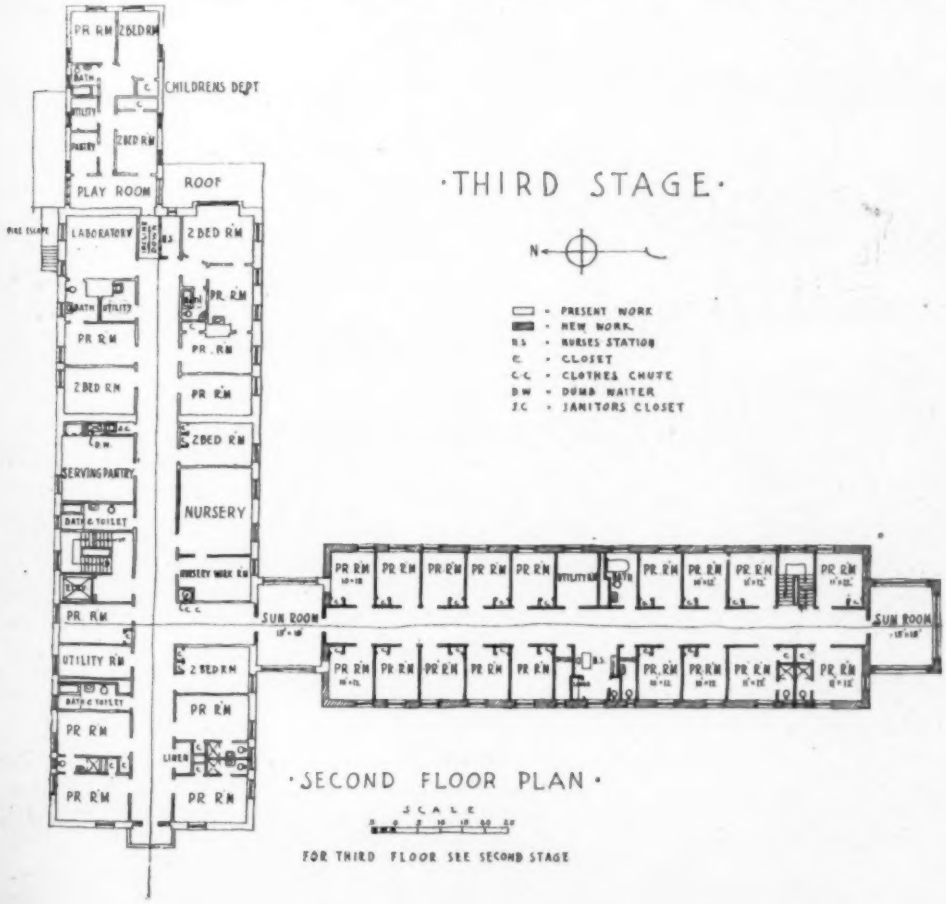
While the capacity was only increased to 33 beds the directors felt justified in the end results through this expenditure of $150,000 for buildings and $10,000 for equipment. The in-

creased facilities for better work in both diagnosis and treatment which this building permitted made increasing demands for beds.

Before yielding to the demand for additional patient beds (always insistent), the directors felt justified in establishing a training school for nurses. A public spirited woman living nearby donated her splendid home. No alterations were immediately necessary.

At times the hospital was taxed to the utmost; by 1928 the private rooms were almost nonexistent, being used most of the time as two-bed wards. During these years the publicity had continued and the directors were untiring in interesting their friends, with the result that many bequests had been left the hospital. As the hospital was almost self-sustaining they were set aside as a special fund. A new building was a dire necessity. This one, however, would be largely devoted to patients, as the accessory departments were already amply provided for. Ninety thousand dollars was needed for buildings, $10,000 for equipment, $25,000 for an addition to the nurses' home and its equipment. The special fund had reached $25,000 when a bequest of $40,000 more was received. The year 1928, however, seemed a poor one to raise further money, and it was not until 1929 that the directors again appealed to the public. By 1930 the buildings were completed and occupied.



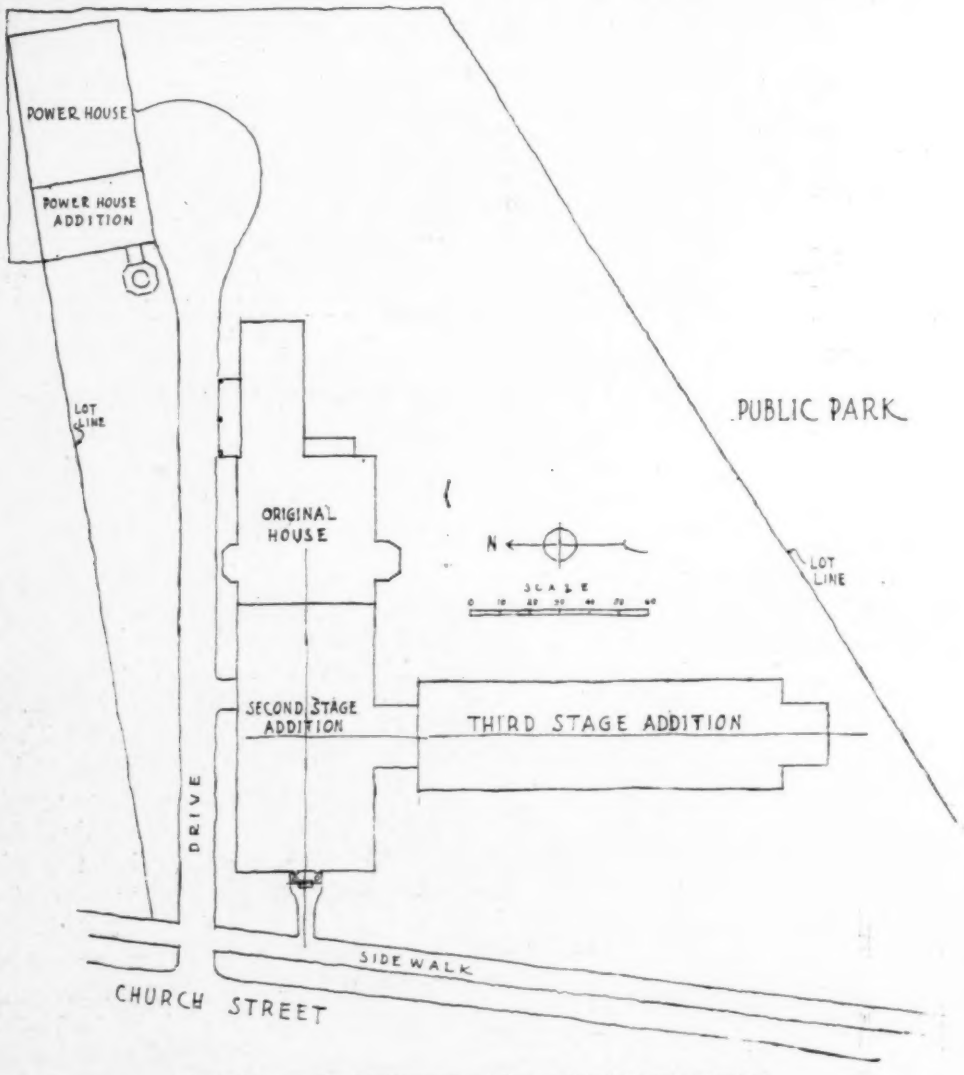

The retiring president in his annual and valedictory report summarized the activities as follows:

"The work is not complete, for there are many activities related to the hospital work that should be undertaken. These I shall not touch upon here for you well know my thoughts on these extra-mural activities. Physically the plant stands among the very best. Its cost in dollars is a

poor measure but in this my final message it may be well to summarize:

| | | |
|---|---|---|
| The first stage—building... | $12,500 | equipment $10,000 |
| The second stage—building. | 150,000 | equipment 10,000 |
| The third stage—building.. | 115,000 | equipment 10,000 |
| The total—building ..... | $227,500 | equipment $30,000 |

We have as a result a hospital of 59 beds, (exclusive of nursery) a nurses' home of 35 beds, a helps' home of 15 beds, and an actual valuation of properties and buildings of over $500,000.




Plot plan of the development of the mythical Penult Hospital

"This yard stick of dollars is a poor measure; we have created immeasurable values for the community. Who shall say how many lives have been saved by the hospital, how many prolonged? Who shall measure the value of the education which we have given our girls in the nurses' training school? Who can measure the gain to the public of the improvement of the diagnostic and therapeutic methods of our doctors through the facilities of the hospital and its aid in avoiding slipshod methods? We may well be proud of the fact that we have been able to care for every case coming to the hospital during the year without any overcrowding, for that means that insofar as is possible we have taken care of all sickness in the community requiring hospital care. Corroboration of this may be found in the reports of the Medical Society which recently surveyed the town carefully."

More might be extracted from the report of the retiring president, but for this the reader is referred to Vol. 7, pages 8 & 9, of the Penult Hospital Association for the year 1930.

## PRIZE FOR CANCER RESEARCH

Dr. Sofie A. Nordhoff-Jung, member of the staff of Georgetown University, Washington, D. C., has founded an annual prize of $500 bearing the title of the Sofie A. Nordhoff-Jung Cancer Research prize. This prize is destined for the encouragement of researches in the etiology, prevention and treatment of cancer. It will be awarded by a commission, composed of members of the University of Munich, Bavaria, and will be granted for the first time in December, 1923.

The commission consists of Professors Borst, Dooderlein and Sauerbruch with Professor von Romberg, as chairman. This body is empowered to elect successors. The award will be made as a recognition of the most conspicuous work in the world literature bearing on cancer research, done at a time antecedent to the allotment of the award.

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To be a good traveler argues one no ordinary philosopher. A sweet landscape must sometimes atone for an indifferent supper, and an interesting ruin charm away the remembrance of a hard bed.

# GENERAL PRINCIPLES IN PLANNING DISPENSARIES

By MICHAEL M. DAVIS, JR., Ph.D., Executive Secretary, Committee on Dispensary Development, New York, N. Y.

SHOULD a dispensary be more than one story high?" asked a questioner at last September's meeting of the American Hospital Association.

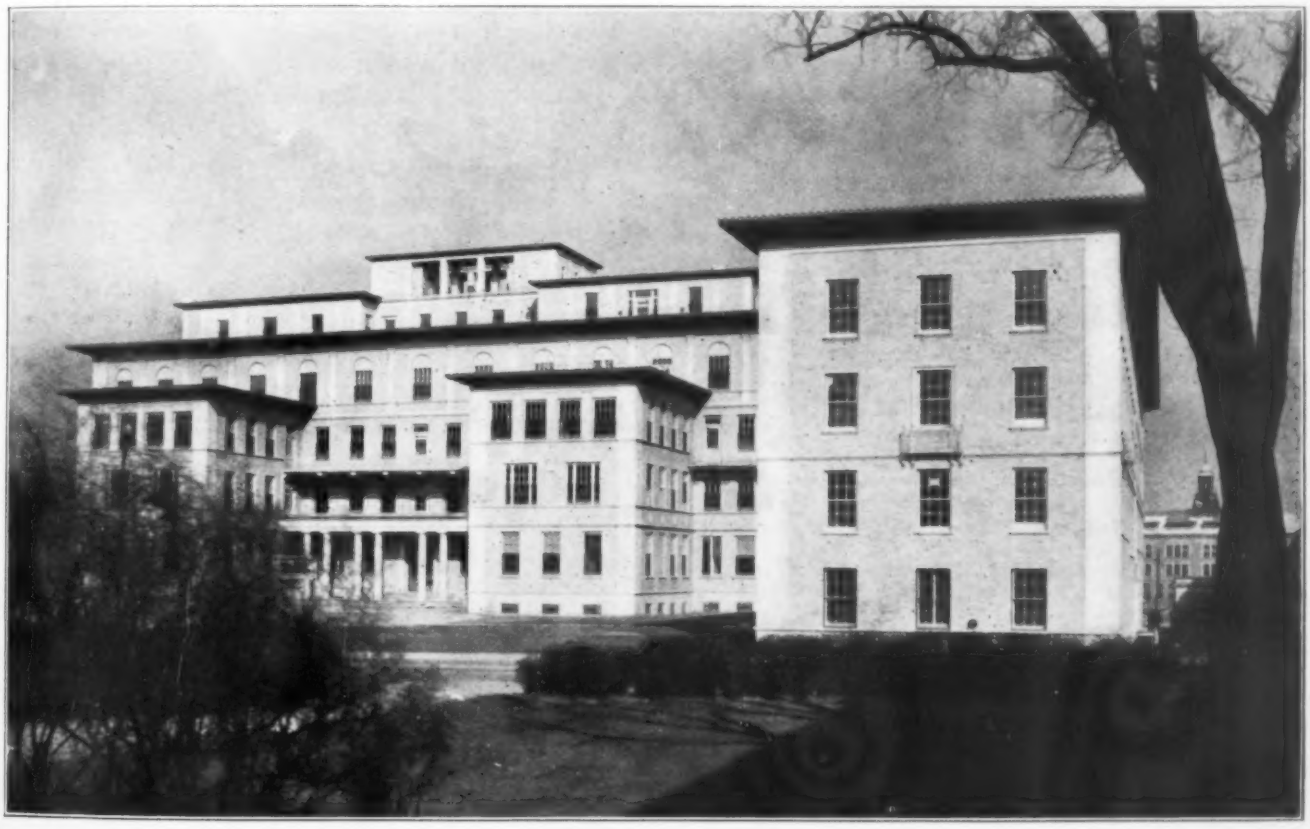
"Where should the x-ray department be located?" asked another. The inquirers seemed disappointed when their queries were not answered categorically.

A well-known hospital executive pointed out that the height of a dispensary would depend on the expected number of patients, the size of the plot available, the land values, the kind of medical work to be done, and other factors; that the location of the x-ray department, likewise, would be influenced by the amount and kinds of work expected for bed patients, ambulatory patients, etc. In other words, there are no prescriptions for planning a dispensary or a hospital. There are, however, certain principles of which those who design institutions should have a fundamental grasp. Then a study of the problems that the particular institution must solve, and the conditions under which its work must be done, will reveal how the principles should be applied. An institution thus planned may stand as a monument to intelligence rather than to imitation.

Although dispensaries have increased enormously in recent years, and recognition of their medical and economic importance has advanced apace, their development is so new that they are as yet far from having arrived at principles of organization or construction which can be regarded as final. It is probably true, however, that some principles can now be formulated, at least as a working basis, and those outlined in this article are offered only in this tentative way.

## Uniting Dispensary and Hospital

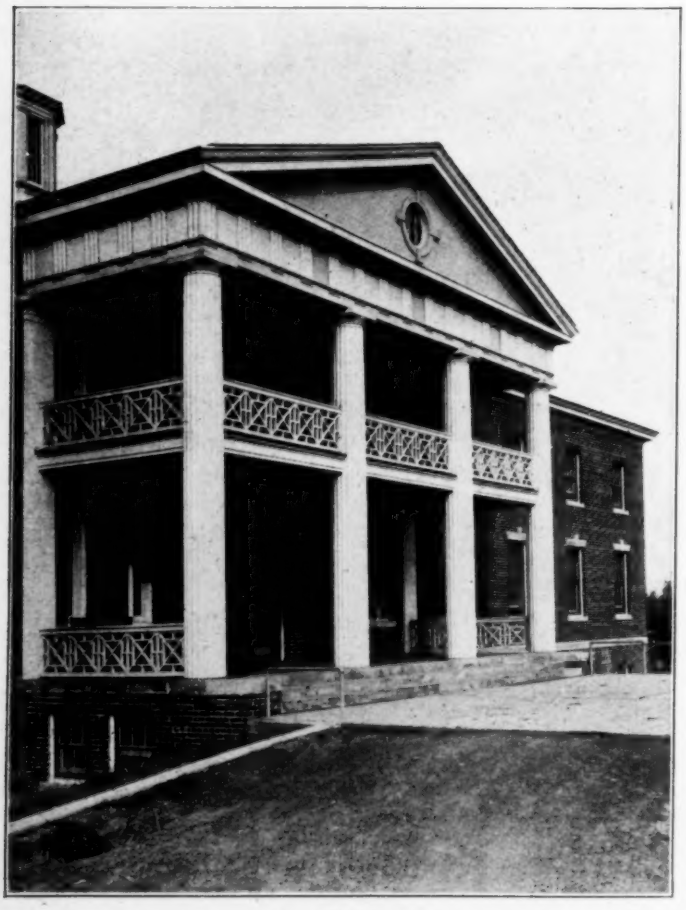
1. *Unification:* uniting the dispensary as intimately as possible with the hospital. Out-patients frequently become bed cases. Vice versa, the hospital case should often be carried on as an out-patient case for continued care after discharge from the ward. In-patient service and out-patient service are not two different kinds of service, but two aspects of treatment of the same patient, often at different stages of the same disease. Yet too often the hospital and the out-



The entrance front of the new Boston Lying-In Hospital, a ninety-bed institution of recent construction. The building is of brick and cast concrete. Coolidge and Shattuck are the architects.

The new sixty bed hospital of the Soldiers and Sailors Home at Milford, Neb., plans for which were drawn by Architects Davis and Wilson.

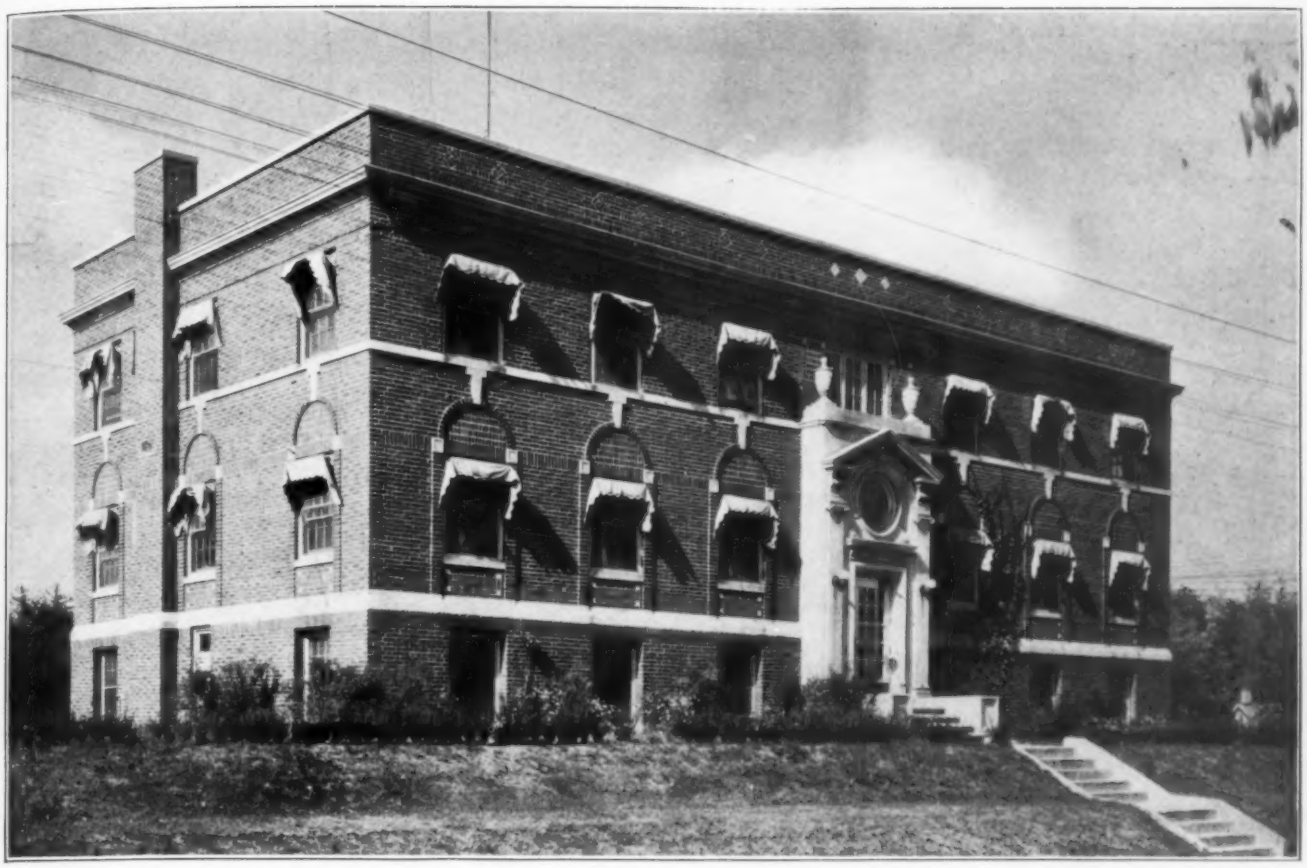
patient department are virtually two institutions with no relation between their staff organization and records, with little or no common administrative procedure in the management of patients, and with no planning of the building such as would indicate or facilitate the close relationship that ought to exist. This principle of unification is now recognized as a fundamental desideratum in the organization of a medical institution. It has many practical applications to the plan of the building.



Detail of the portico, Hospital of the Soldiers and Sailors Home, Milford, Neb.

The admission of patients to in-patient department and out-patient department should be centralized as far as possible. It is not practicable, of course, to have stretcher cases come through the same door as the ordinary walking case; nor is it usually thought well to have private patients use the same entrance as ward patients. The admitting work for the wards and the out-patient department should, however, be unified as an organization, and should be brought into as close physical juxtaposition as possible. Similarly with the record system, all the records of each patient should, if possible, be brought together, ward and out-patient records both. Even if the in-patient and the out-patient records are not thus united, it is still desirable to have the room or rooms for the records of in-patient and out-patient departments physically adjoining, if not the same. More expert filing and control of records is thus procurable for less money.

Again, in planning the laboratories and x-ray facilities of the institution, it must be recalled



Pekin Public Hospital at Pekin, Ill., is an eighteen bed institution recently erected at the cost of $40,000. Hewitt & Emerson are the architects.

that where there is an out-patient department, a great deal of work of both laboratory and x-ray department will be required for ambulatory cases. Certain patients must be sent personally to the laboratories, while for other types, only specimens taken in the out-patient department need be transmitted. It is therefore important to locate the x-ray department and certain laboratories so as to render them conveniently accessible to both in-patients and out-patients with minimum crossing of lines of traffic, and with the minimum travel for both groups of patients. Certain therapeutic services such as electrotherapy and hydrotherapy are chiefly used for ambulatory cases, and should be located in accessibility to both the out-patient department, and to the hospital. The dental service, which is needed for most hospital cases, and which (except for a relatively small proportion of operative work) is essentially an out-patient procedure, should be made a part of the out-patient department. With some cases, of course, the dental work must be done while the patient is in the ward. It may be added that small supplementary laboratories are often desirable in the out-patient itself, as for routine urine examinations in a medical clinic.

This principal of unification will be at once challenged by those interested in dispensaries unattached to hospitals. It seems to imply that the unattached dispensary has no reason for existence. That is not true; but it is true that the un-

Detail of the entrance, Pekin Public Hospital, Pekin, Ill.

attached dispensary cannot do certain types of work in diagnosis or treatment that the out-patient department of a hospital can and should perform. Space does not here permit going into the problem of the unattached dispensary further than to indicate that the lack of relationship with a hospital imposes definite limitations upon the scope of work. These limitations, when properly defined, will be reflected in the planning and equipment of the institution.

2. *Provision of adequate space for administration.* As brought out in an article on "Some Common Mistakes in Planning Dispensaries," in THE MODERN HOSPITAL for December, 1922, one of the most common defects in dispensary buildings is the small space allowed for administrative purposes. The out-patient department and the unattached dispensary receive numbers of patients who, not being fixed like bed cases, require to be received, conferred with, and "routed" from one place to another before they are finally face to face with the doctor in the clinic. Adequate space for the reception and admission of patients, for records and for record storage, and for the officers is essential. An important application of this principle is that within every clinic subdivision (medicine, surgery, and the specialties) space should be allowed for the work of administrative assistants to the doctor—clinic executives or secretaries, paid or volunteer. This means desk space so located as to be most useful to the physician for the prompt and courteous reception, movement, and instruction of patient.

Space for social service requires a central office and (in a large dispensary) space in various departments of the clinics where private conferences with patients can be held. Broom closets and slop sinks in at least one place on each floor, a covered vestibule for baby carriages, ample wall sockets for electric connections and storage space for frequently used supplies, are among the administrative conveniences the importance of which is often realized after they are found to have been forgotten; likewise with provision near the admission hall for the detection and temporary isolation of contagious cases.

3. *Sanitation:* light, air, ventilation, adequate sanitary conveniences for patients and working staff. Out-patient departments are still associated with the basement. Dispensaries are young things as yet, but as they grow, let us hope they will grow up, that is, up out of the basement! It is well to suggest that the problem of ventilation is not the same in the out-patient department as in the wards. The out-patient is in one room but a few hours, and rooms can be flushed with fresh air between clinic sessions. It is desirable to have means of artificial ventilation combined with the use of windows with draft deflecting mechanisms.

The free opening of windows during clinic sessions being impracticable because of drafts upon half-ill persons, or patients stripped for examination, means of artificial ventilation are essential. Interior corridors cannot be ventilated adequately from adjoining examining rooms.

## Providing Privacy for Patients

4. *Individualization of the patient.* The old type of dispensary had many large rooms in which patients sat around. The doctor went from one to another, or more frequently called them to his desk, gave them a look over and a prescription. Present-day standards require individual attention to each patient corresponding to practice in

The Brown Memorial Hospital at Conneaut, Ohio, was opened on April 13, 1922. The site was donated by W. H. Brown as a memorial to the Brown family whose home it had been more than a century. The citizens of Conneaut and the surrounding country raised $100,000 for the remodeling of the building.

private offices. Provision for the individualization of patients means such practical matters as the following:

(a) In large out-patient departments special waiting rooms for each clinic or group of related clinics (unless corridors are so located in relation to the examining rooms that patients can wait on chairs or benches there without crowding).

(b) Small examining rooms or booths for history taking, physical examination, etc., in such departments as medicine, neurology, pediatrics, gynecology, etc., and cubicles or booths for such special work as ophthalmology or laryngology: each unit just large enough for one patient and doctor with the necessary assistants. (See article in THE MODERN HOSPITAL, December, 1922, page 490.)

(c) The principle of individualization of patients also requires the rooms to be so planned that an executive assistant can control the intake and outgo of a considerable group of patients from a single point. This means saving a large amount of doctors' time from non-medical duties for medical work. The number of patients for each clinic executive varies, of course, with the nature of the work, being much larger in a throat or skin department, for instance, than in medicine or psychiatry. It is not necessary for small departments to be separate administrative units from the standpoint of clinic management. A single clinic executive may be sufficient for several departments or subdepartments which have medical independence of one another, but are put in conjunction as administrative units. Entrances and exits from and to corridors or waiting rooms and dark space for the clinic executive must be planned accordingly.

In general, it may be said that dispensary planning involves the engineering of many movable units through many interrelated processes, and is more akin to the planning of a factory or department store than of a hospital or a school. A combination of the points of view of the architect and of the engineer is required. For example the proper proportioning of waiting space to examining space involves consideration of many factors, not only areas but also number and rate of movement of patients in the various types of clinics.

5. *How determine size of building needed?* The effective capacity of an out-patient clinic, unlike that of a hospital, is not determined chiefly by floor space or cubage. The number of hours per day during which clinics are in session is a very large factor in determining the number of patients that can be received and treated. In planning a hospital the cubic capacity and floor space required can be estimated fairly closely once the number of beds is known, but in out-patient work, the floor space merely limits the peak load, or maximum number of patients that can be received and treated within a given short period of time such as the busiest hour of a working session.

A most attractive building is the new Jane Lamb Memorial Hospital at Clinton, Iowa, plans for which were drawn by Schmidt, Garden and Martin of Chicago. The building was dedicated in January, 1923.

In large measure the working hours of out-patient clinics have had to accommodate themselves to the hours which could be most conveniently given by doctors. When all of the staff in all departments wish to give their services at the same time, and it is therefore necessary to receive all out-patients within a single daily period of from one and one-half to two and one-half hours, much more space is necessary for the same number of patients than if the working periods covered five or six hours of the day and evening. Obviously, conflict often exists between the hours most convenient to an unsalaried out-patient staff and the working hours which would conduce most to the economical construction and utilization of the dispensary plant.

In answering the inquiry above, in the case of any new institution the following order of questions may be considered:

(a) From the standpoint of service to the public, what are the desirable working periods?

(b) During what periods can we secure medical service in the various departments?

(c) What departments from their medical nature need to be working at the same time?

(d) What is the maximum number of patients then to be expected during the busiest hour of the day? The capacity can then be planned to carry this peak load.

Proceeding by this method may make it possible to secure a wider distribution of clinic sessions during the working hours, and thus diminish the size of building necessary to carry a given total of patients. In deciding how many different departments, medical, surgical and special, need for professional reasons to be in operation at the same time, it must be borne in mind that the demands of diagnosis are not the same as those of therapeutics. The establishment of diagnostic divisions may sometimes be a useful expedient rendering it possible to bring together all the essential consultants at one time, to deal with a limited group of picked cases, while relegating routine treatments to other hours. In many institutions it is possible to apply this principle only in a limited way, as yet, because with unpaid medical staffs, the hours which doctors prefer are often the finally determining factor. But it is well to have tendencies in mind and to make use of them as far as local conditions permit.

## Arrange Specialties in Administrative Units

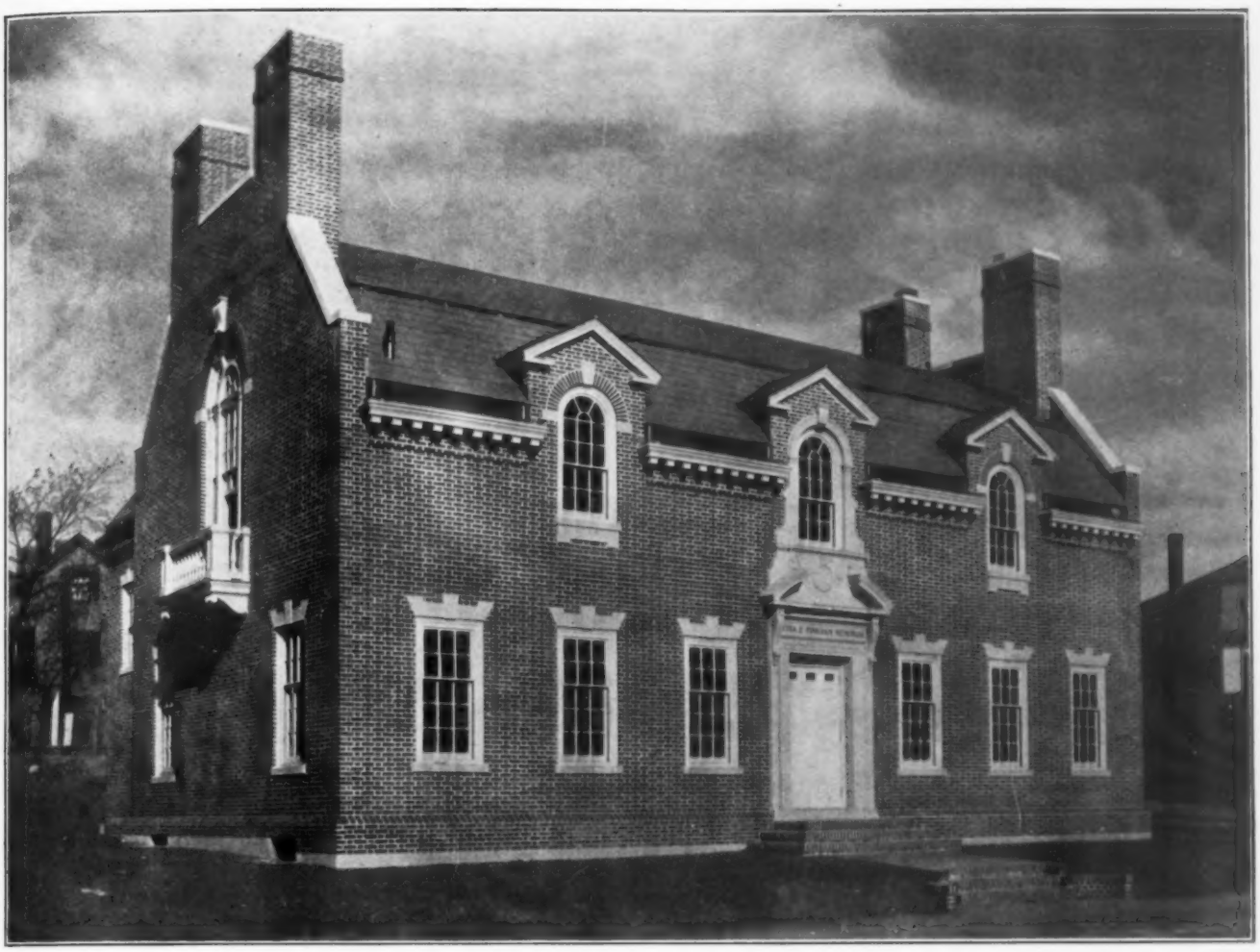
6. *Planning with reference to clinic departments.* The number of special departments to be installed is an important factor in planning both building and equipment. A dispensary receiving sixty patients a day with fifteen different clinical departments, seven to ten of which are running at the same time, is subdivided too much. The reason often is that it is easier to secure volunteer medical service when the title of chief of a department can be given. Specialization of work can go on by the assigning of special types of cases to individual doctors within a suite of rooms which, however, are one administrative unit, as above suggested. The number of different departments should generally be within the number of specialties which are definitely recognized in the local medical practice. In small communities, this means that there will be fewer specialties, except from occasional visiting men. The principle to be followed is that the number of clinical administrative units as defined above is to be governed not by the number of different specialties or subspecialties recognized in the medical organization, but by the number and types of patients to be handled. The grouping of specialties into administrative units saves in expense of construction and maintenance.

7. This leads to another principle, that of *flexibility.* It is often possible to utilize the same rooms over and over again during a week for different types of clinical work. The planning and equipment of out-patient clinics requires the consideration of two main types of service, medical and surgical. Under the medical type falls general medicine and various subdivisions (e.g. cardiac, tuberculosis), pediatrics, psychiatry, neurology, dermatology, etc. The type of rooms for history-taking and examination is similar for all these, and the difference in fixed equipment required is not great. The size of these different departments and subdepartments will determine how far the same rooms can be used at different times by more than one specialty. But it is important to plan the suites so that there will be the maximum amount of flexibility. In the surgical group flexibility is not so easily obtained since much more is required in the way of special equipment in surgery, gynecology, genito-urinary, orthopedics, dentistry, etc. Yet even here certain combinations and economies are possible in some instances. For example, a suite of four rooms opening off a common corridor may have the two center rooms equipped with simple examining tables; one end room with an examining table for the ordinary gynecological examinations, (general surgery, gynecology, and genito-urinary divisions may all use such a suite), and the fourth room for cystoscopy. In so far as the principle of flexibility can be applied it obviously promotes economy of construction and also renders the building more adaptable for unforeseen future changes.

## Efficient Location of Equipment

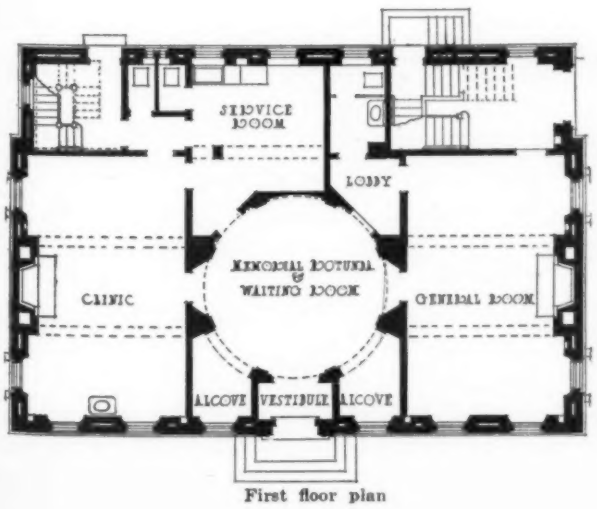
8. *Planning and location of equipment on an efficiency basis.* Very detailed planning of the location of examining tables and therapeutic equipment in relation to natural and artificial light conduces vastly to the doctors' ease in work. Much has been done in recent years in planning hospital wards to minimize the number of steps to be taken by nurses, but little as yet in out-patient clinics. Once the general layout of an out-patient department has been determined, detailed consideration should be given in the medical type of clinic to a typical unit in which the doctor's desk or history table, the examining table, wash basin, etc. shall all be so located as to minimize time and effort for both doctor and patient.

Similarly with the surgical group, as in throat or eye clinics, a typical booth should be worked out. The tastes and habits of individual laryngologists, for instance, have to be considered, and demands for fixtures as well as for instruments

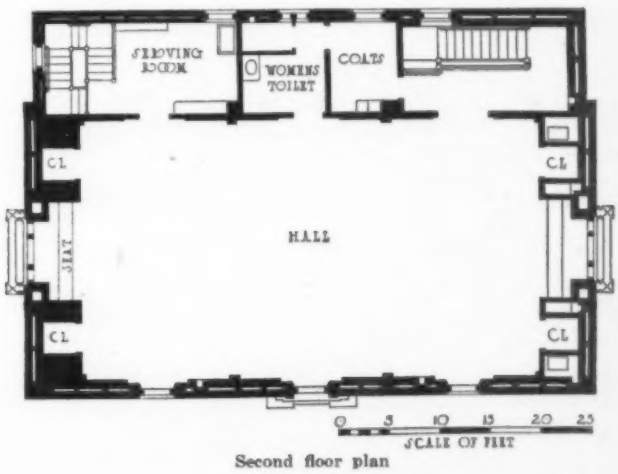


The Pinkham Memorial Clinic for Babies at Salem, Mass., is of 1922 construction. It is purely for the use of out-patients, and has no beds, private rooms or ward service. Haven and Hoyt are the architects.

may differ, but if the matter is approached from the standpoint of planning the most efficient arrangement for all, agreement can often be reached in advance, with economy and efficiency as the result. Much detailed standardizing work of this sort ought to be done in the near future. Of late years, thousands of dollars have been spent to plan the locations of factory machinery, the interrelations of departments, the details of industrial equipment, so as promote the greatest efficiency in production. To plan similarly the physical basis for the life-saving work of the doctor offers no such opportunities for financial profit as does planning for commerce or industry; yet may it not also inspire the imagination of the architect, the administrator, and the engineer?




First floor plan




Second floor plan

# SMALL HOSPITAL MORGUE AND AUTOPSY ROOM

By RICHARD RESLER of Resler & Hesselbach, Architectural and Consulting Engineers, New York, N. Y.

BASED on an extensive investigation of numerous hospitals of varying bed capacity, it appears to the writer that there is a pronounced disposition to relegate the planning of the hospital morgue and of the autopsy room to third place, although this department is one of the most important and interesting of the entire institution.

The morgue and autopsy room have been found in every conceivable part of the basement or ground floor, with no mortuary refrigeration, with inadequate facilities for research work and with inferior illumination and ventilation. In fact this department frequently has been overlooked entirely.

## Autopsy Findings Essential to Progress

As autopsy findings are the prime means of obtaining knowledge of the causes and the progress of disease, it would seem that it is of the utmost importance to interns and to attending physicians and surgeons that proper and adequate facilities be provided for them to prosecute their studies anatomically. Should the morgue and the autopsy room be dark, poorly ventilated and without modern conveniences, this department will be a neglected place in the institution, with subsequent retrogression in the technique of the personnel.

Advance in the technique of diagnosis, through facts brought out by autopsy conclusions has been more pronounced in Europe than in this country, owing, no doubt, to the fact that institutions in Europe have been vested with authority to perform autopsy in nearly all cases. It seems to the writer that facilities for autopsy should be embodied in all modern institutions; otherwise progress in diagnosis will be greatly retarded through want of opportunity to study the effects of various treatments upon organs and tissues.

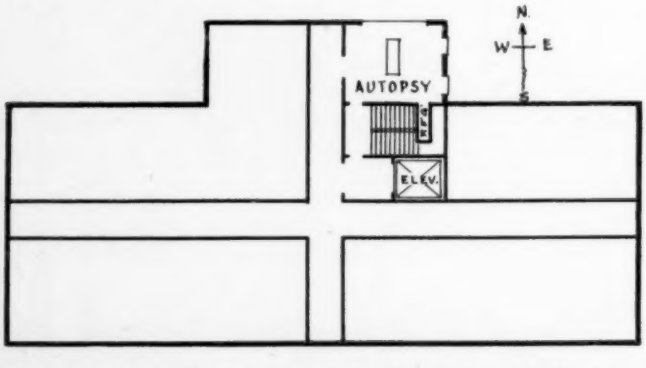



Diagram of a combined morgue and autopsy room suitable for a hospital of thirty-five beds.

The magnitude of this department is dependent largely upon the bed capacity of the hospital. There is no valid reason, however, why these facilities cannot be embodied in the plans of even a small institution, in which case the morgue and autopsy can be combined in one room.

It frequently appears that this department has been provided for in some out-of-the-way place, ignoring such important factors as proximity to the elevator and convenient means of removing bodies from the hospital. Furthermore the morgue and autopsy room should be so located as to permit the transmission of bodies to this room with a minimum chance for observance by patients and visitors.

## Should be Located Above Grade

In order to obviate the permeation of the section of the building, wherein the morgue and autopsy room are located, with the odor peculiar to this department, the room should, if possible, be located in a corner to permit of cross ventilation. It is the writer's opinion that the morgue and autopsy room should be treated similarily to an operating room with abundant north light, artificial illumination, and strict sanitary details in order to facilitate cleaning. This would naturally require that the morgue and autopsy room be located above grade, which in a number of cases due to local conditions of site is impractical to accomplish. There is no basis, however, for locating this department below grade to the extent that it has been so placed, except that hospital planning formerly did not receive the study it does today.

The accompanying diagram indicates a convenient and practical location of a combined morgue and autopsy room in a small institution of approximately thirty-five beds.

In addition to the factors of adequate daylight and artificial illumination, ample mortuary refrigeration must be arranged to permit easy transfer of bodies from refrigerator to the autopsy table for diagnostic purposes. The capacity of the refrigerator will depend upon the size of the institution. This refrigerator should be of the sliding type with a movable carriage and removable tray, so arranged that the body may be withdrawn either partially or wholly for identification or inspection purposes, while the tray remains in a horizontal position without vertical

support. This refrigerator can be equipped with either ice compartments or brine coils.

In a large institution where the morgue and autopsy rooms are adjacent, the mortuary refrigerator should be located between the two rooms, allowing access to either end.

As to the finish of such a department, it would seem highly desirable to use a light tone tile floor finish, sanitary base and wall wainscot extending up to the ceiling cove. The floor should slope easily to a flushing floor drain. A deep washup sink should be furnished for the use of the pathologist as well as a deep sink with an integral drain board for washing anatomic parts, all conveniently arranged with regard to the autopsy table. Space should be allowed for an instrument and drug cabinet. Built-in blackboard and charts are a great convenience. In a large institution an incinerator should be provided.

The new Dickeson County Memorial Hospital at Abilene, Kansas

## Requirements of an Autopsy Table

The autopsy or post-mortem table should be situated advantageously with regard to the light. There are a number of types of tables made by the various plumbing houses, from the old style, marble-top table to the modern enamel iron, the relative merits of which have created a great diversion of opinion among members of the profession. From the writer's investigations he has concluded that the following requirements are essential of such a table:

A metal band grating (so reinforced that it will not spring) over the entire table set at least four inches above the table top proper. This grating should have a mesh coarse enough to permit the easy passage of liquids but fine enough to prevent the passage of small instruments or anatomic parts and tissues. The grating should be easily removable.

A sufficient depth to the table to minimize the inconvenience of an overflow.

Ample and convenient table space for dissecting tissues.

A surface that can be easily cleaned.

Ample water facilities with hose readily controlled.

Convenient access to drain and trap.

In some institutions, fans for ventilation have been located under or at the side of the table in order to draw off the odors which are usually present. The ventilation factor in a large department requires thorough study and is governed greatly by local conditions.

This paper is presented for the purpose of stimulating the study of the morgue and the autopsy room which, in the writer's opinion, are of great concern in hospital planning, and with the hope that such facilities will be embodied in all our modern institutions, particularly those in the outlying districts. The results should be far-reaching.

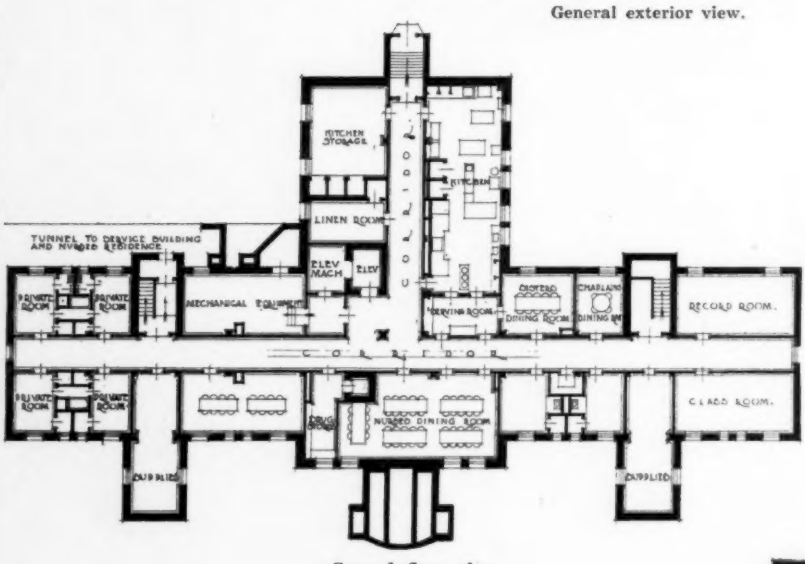
## WILL NOT NAME DIRECTOR OF SOCIAL WORK BUREAU

Following the resignation of Miss Ida M. Cannon as director of the Service Bureau on Social Service, the American Hospital Association, through its board of trustees, has voted not to fill the position of director for the year at least. The action was prompted by the fact that the American Association of Hospital Social Workers now has a full-time executive secretary and facilities for carrying on such work.

You are to come to your study as to the table, with a sharp appetite, whereby that which you read may the better digest. He that has no stomach to his book will very hardly thrive upon it.—Earl of Bedford.

## ST. JOSEPH'S HOSPITAL, MITCHELL, S. D.

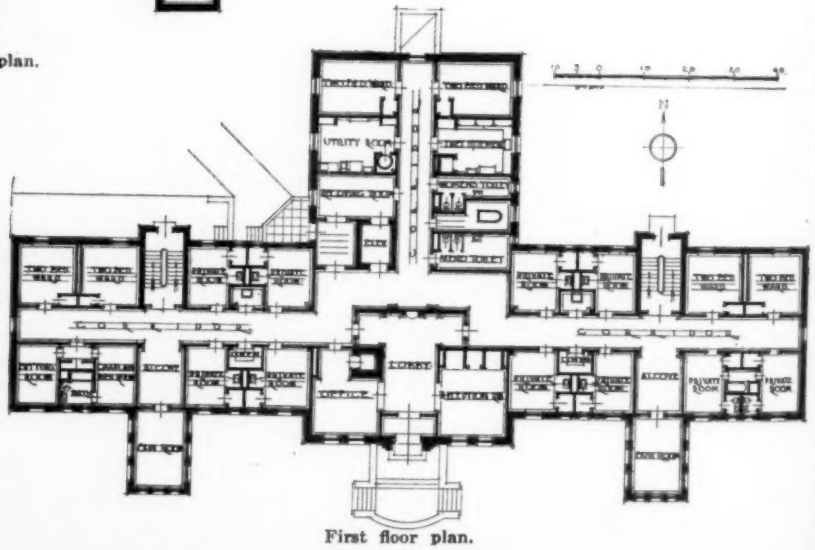
General exterior view.




Ground floor plan.

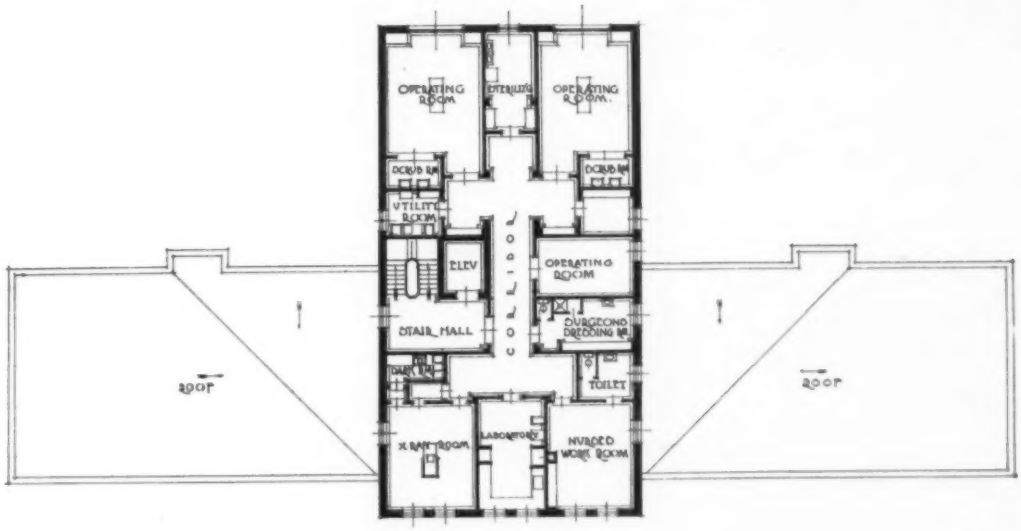
Architect Edwin H. Lundie planned the new St. Joseph's Hospital which was opened last year. The institution, exclusive of furnishings and equipment, cost $225,000.

The Sisters of St. Joseph, who operate the hospital, declare that its operating cost is from $2.50 to $3.00 per bed per day. Laundry, power plant and nurses' residence are in separate buildings.




First floor plan.

Second floor plan.




Fourth floor plan.

Third floor plan.

# CUTTING THE COST OF INSTITUTIONAL SERVICE

By CARL E. McCOMBS, M.D., National Institute of Public Administration, New York, N. Y.

RETRENCHMENT is today's most popular word in the lexicon of the taxpayer. All over the country citizens are showing signs of uneasiness because of the steadily mounting tax burdens which they are called upon to shoulder. They hope always for a reduction of taxes but that hope seems vain in view of the increased responsibilities which the citizen himself has compelled and is compelling government to assume.

*WHAT ABOUT THESE COSTS?*

*The cost of an unsuitable, uneconomic location of the institution.*

*The cost of failure to provide for future expansion.*

*The cost of upkeep in bright metal work, beautiful lawns and drives, spaciousness and fine vistas.*

*The cost in labor turn-over of dingy, badly furnished quarters for employes.*

*The cost of imposing structures which fail to guarantee health, comfort and convenience to the patients.*

*Dr. McCombs points out these often neglected opportunities in decreasing the cost of institutional service.*

In a recent article in the *National Municipal Review,* Lent D. Upson, director of the Detroit Bureau of Government Research, shows that the government of the city of Detroit took on seventy new activities, in the period 1910 to 1920. The population of the city in this period was doubled, but the tax burden was increased to five times its former proportions and the city debt was multiplied by ten or fifteen. What has happened in Detroit in the past ten years has happened in almost every city and state, though not perhaps to the same degree. It would appear that as long as citizens continue to demand more service from government, they cannot expect lower tax rates. They have, however, a right to demand that the governments which represent them shall guarantee service benefits commensurate with service costs. This is what retrenchment must mean.

No one familiar with the astonishing progress which government in this country has made toward the prevention of disease and the promotion of human welfare would argue that government ought to abandon any of its activities in these lines, but if government were to return to the expenditure basis of ten years ago many of its most productive services for the protection of human life and social betterment would have to go by the board. If one analyzes expenditure of state and municipal governments during the past ten years he cannot fail to be struck with the fact, that with the possible exception of education, no other governmental activity or group of related activities shows a more rapidly increasing cost than institutional service. This is particularly to be noted of governmental activities in the more recently organized states, where government has from its beginning been obliged to take upon itself responsibilities which in the older states were assumed by private philanthropy. In the older states we find many of the most important charitable, correctional and educational services still supported and administered by private agencies.

Since state administration of institutions for the care of the dependent and defective, hospitals, homes and sanatoriums shows relatively fewer variations from type than are observed in city administration, we shall refer in this article chiefly to the former. In the majority of our states administrative responsibility for these institutional services is vested in a board or in several boards. In many states two tendencies which should be noted have been apparent within recent years. The first is the tendency toward consolidation of all institutional services under a single administrative agency, such as a board of control. The second tendency, which is of more recent appearance, is toward elimination of boards of control and the centralization of administrative responsibility in one person. It is not our purpose to argue the advantage or disadvantage of these types of institutional administration. It should be said, however, that the board plan finds more favor among the majority of public officials and among the people generally who quite democratically fear "one man power." Support for the single executive plan is furnished chiefly by the "theorists," of which the writer is one, who believe that fixing responsibility on one full-time, experienced officer is more certain to promote efficiency than dividing responsibility among several part-time, comparatively inexperienced persons.

But no matter which side of this argument one may take, it will be conceded, I think by all, that there has not been the improvement in the admin-

The new Psychopathic Hospital for Criminals at Spring Grove, Md., plans for which were drawn by Architect Henry P. Hopkins. The institution provides quarters for ninety patients and the building proper cost $90,000.

istration of public hospitals, homes and sanatoriums which the extension of governmental responsibilities warrants. With practically the same administrative machinery, which twenty years ago was responsible for spending thousands of dollars for institutional services, many state governments are now spending hundreds of thousands of dollars. In perhaps a majority of states we still find boards of administration or control made up of citizens "of probity and wisdom" who are scattered throughout the state, meet only occasionally, none of them with special knowledge of institutional problems, and without the service of consulting technical experts who can advise them on such matters. When a new institution is to be built or an old one altered to meet some new situation, the usual practice is for the board to designate an architect, and with his assistance prepare the necessary plans. Quite often the knowledge of the architect about the requirements of the proposed service is as superficial as that of the members of the board. Even though the board may have within its jurisdiction thoroughly competent institutional executives it is unusual to find them called in to give advice.

That this situation is not an uncommon one is evidenced by a recent editorial in The MODERN HOSPITAL (November, 1922): "Many

Detail of the entrance to the new Psychopathic Hospital for Criminals

superintendents of small hospitals are working in buildings that are ill adapted to the institution's purpose. The laboratory is poorly located, the diet kitchens are too small, there are too few closets, the store room is difficult to get at. How often have we heard these superintendents express the wish that they might have an opportunity to cooperate with an architect in the planning of an efficient small hospital." The situation here described, which evidently has reference to hospitals under private control, applies with equal or greater force to hospitals and other institutions under public control.

### In Danger of Cut in Appropriations

Since the retrenchment programs of governments must concern themselves chiefly with the elimination of waste in public expenditure and must have as their main objective the development of a system and a practice of administration which shall guarantee the citizen, not necessarily lower taxes, but rather better service, it is of paramount importance that those concerned with the development of institutional services shall be prepared to cooperate to these ends. We have said that the establishment and maintenance of public hospitals, homes and sanatoriums is the largest item of expenditure of state governmental departments, with the exception of education. In some states expenditures for public institutions of this character are as much as one-third of the entire expenditures of government for its general departmental service. It is not at all unlikely, therefore, that a great deal of attention will be centered on this field of public service by those demanding retrenchment. Unless public institutional boards or other administrative agencies are prepared to show a real interest in the problem of eliminating waste, they may find the axe applied to their appropriations in such an unreasonable way that many vital activities will suffer.

The writer is neither an authority on institutional planning nor an expert on institutional administration. As the result of ten years' study of the administration of public institutions together with a few instructive experiences in helping to plan them, he has, however, made certain observations and formed certain opinions about institutional planning in its relation to cost which have convinced him that there are many neglected opportunities to decrease cost and at the same time improve rather than impair institutional service. He has no standardized forms, schedules or outlines to offer for the guidance of those concerned with these matters, but purposes merely to show by illustrations from his own note books where some of these opportunities are and to suggest how advantage may be taken of them.

The commonly accepted basis for comparison of costs in hospitals, homes and sanatoriums having like functions is the patient-day or inmate-day cost. The value of this index for determining the relative dollar efficiency of institutions so compared is, however, almost negligible since it is impossible to appraise by statistics alone many of the more important but hidden factors which contribute to such cost. Even with all the collateral statistical information which the most comprehensive system of institutional bookkeeping affords, inference based on statistics is more than likely to lead one into error. The cost of an unsuitable, uneconomic location of the institution; the cost of failure on the part of those responsible for its planning to prepare adequately for inevitable readjustments to meet increased or new service demands; the cost in health and well-being of inmates because of failure to provide plant and equipment which affords maximum opportunity for physical and mental rehabilitation; the cost of maladjustment of plant and equipment to employment needs and employes' welfare so that there is high labor turnover, high labor cost with reduced efficiency and low morale among employes; these are cost factors which cannot be measured satisfactorily by statistics alone. There are doubtless many more such intangible cost factors which the experienced institutional administrator can name.

A board, let us say, is charged by the government with the responsibility of developing an institution of a certain type. We will assume that there has been a thorough study of the community need for such an institution and that all the facts as to numbers, age, sex, distribution of prospective patients or inmates, treatment or custodial program essential, etc., have been made available to the board by competent investigators and advisers. To assume this is, of course, to ignore the fact that in the majority of instances public boards of administration neither have this information nor make any real effort to get it. But crediting the board with complete knowledge of all the facts necessary for intelligent planning, its first problem is to select a location for the institution which will best serve the purpose. At this point the board needs to be particularly well-advised and well-informed. An architect should be called in to assist the board in surveying prospective sites. If he is a competent architect and, at the same time familiar with institutional construction and general service requirements, his advice will certainly be helpful. An engineer with thorough understanding of the problems of water supply, sewage disposal, drainage, etc.,

should make a careful survey of local conditions affecting such matters, and with the architect should go carefully over the location, appraising it as to possible costs of excavation and fill, drainage, use of local materials for construction, extent of landscaping operations necessary, area and suitability of land for farm and garden purposes, if such projects are contemplated. Careful study should also be given by competent persons to the relation of location to institutional needs with respect to transportation of persons, supplies and materials, and to climatic conditions such as annual rainfall, hours of sunlight, fogs, mists, etc. All this and other related information should be made available to the board so that it may weigh the advantages and disadvantages of each site and select that one which is best suited to the aims of the contemplated service.

## Politics Often Determines Site

Time and again one sees institutions which have apparently been located without consideration of any of these matters. In many instances the failure of a board to select a satisfactory site is traceable to political manipulation. When a state government proposes to build an institution, there is often strife between local political delegations or groups, each seeking to have the institution established where it will give its own particular constituency material advantage. It is a splendid thing for the business of a small rural community to have a state hospital or home nearby, but it is never satisfactory for the state to permit local interests to outweigh the interests of public service. Where institutions are located through or because of political influence, any such program as has been suggested for determining the most satisfactory site is impossible, of course.

But whether the cause of bad location is lack of information on the part of those responsible for selecting the site or due to political machination over which they have no control, the result is generally the same in high cost and low efficiency. A few illustrations of uneconomic location of public institutions will perhaps be illuminating.

## Scenery But Not Accessibility

In a mid-western state a tuberculosis sanatorium for incipient cases only was established in the extreme western, mountainous section of the state. The majority of tuberculosis cases are, however, found in the more thickly populated eastern part of this state. The sanatorium can be reached by patients from the eastern part only by a long and exhausting ride on slow and poorly-equipped trains, and through train service cannot be had during the long winter season. The sanatorium station is only an unheated shack on the right of way and the sanatorium buildings are more than a mile from the station over a road which is bad at all times and well-nigh impassable in winter. The result is that many patients reach the institution's doors in a state of exhaustion. Some have died in transit. Once patients have arrived they must be received because there is no other place for them to go, and so many advanced cases throw themselves on the institution knowing that they must be cared for until they are well enough to be discharged or until death claims them. The result is that advanced cases have well-nigh crowded out the incipient cases for which the institution was intended.

The new power house and upper story addition, Madison General Hospital, Madison, Wis., which were planned by Architects Schmidt, Garden and Martin.

This has meant naturally quite a different type of service than was originally contemplated, and a much higher cost than would be necessary to carry out the original program. More nurses and more special equipment have been required for the advanced cases and higher food and service costs generally have resulted. This institution might have found a dozen sites more suitable, as good in environment, more accessible to patients and visitors, and less costly to develop. In this particular case, the scenic beauty and high altitude of the site selected outweighed all else in the judgment of those responsible.

In a western prairie state a site for an institution was selected without proper study of the suitability of the soil for agricultural purposes, although one of the primary aims of the proposed service was to train boys in agricultural pursuits. After the institution was built it was discovered that in the spring planting time so much farm land was under water that agriculture was impossible. Many thousands of dollars have since been spent in draining and improving this property, although in the very neighborhood ample well-drained farm sites could have been purchased at about the same price per acre.

Again, in an eastern state the board of trustees of a convalescent home selected the site for an institution to cost about a million and a half dollars without anything but the most casual survey of the property. After it had been purchased, a sanitarian was asked to make a survey, and it was then found that in order to eliminate mosquitoes and reclaim sufficient land to make the raising of garden products possible and profitable, about $100,000 would have to be spent in drainage of swamps and wet meadows. On the advice of an architect who assumed that water would be readily available whenever it was needed, no proper study was made of possible water sources before purchase of the property. In consequence, when water was wanted, it was found that an adequate supply could be obtained only with the greatest difficulty and at a cost which would have been prohibitive for an institution with smaller resources. This site never should have been purchased and would not have been had not the board been so charmed with the natural beauty of the spot that it forgot all else. A skilled engineer, after a day's survey, would have advised the board against purchasing the plot and would have saved the board several hundred thousand dollars in cost of development. Other and better sites were available on all sides.

One more illustration of incompetent institutional planning from the point of view of location is perhaps worth citing. A western state established a school for the blind on the outskirts of a small town of about 300 people with poor train service to and from the larger centers of population. The site would be an excellent one, perhaps, for a correctional institution wishing an isolated, rural setting with plenty of opportunity for the employment of inmates in agriculture, but as a site for a school for the blind it is decidedly lacking. It is too far away from the large centers to permit the inmates to take advantage of musical instruction and entertainment which is an essential part of their training. They are practically cut off from all the opportunity for social contact which urban society affords, and the narrowing effect of their affliction upon their lives is thereby enhanced.

The old adage the "you can't make a silk purse out of a sow's ear" is one which may well be pondered by those concerned in institutional development. An institutional site badly chosen is always a liability and though handicaps may be overcome if sufficient funds are available for the purpose, it is an imposition on the public to burden it with the cost of overcoming them. This applies as well to institutions supported by private philanthropy as to those supported by the public through taxation. The public pays, and dearly, in either case.

## Plans Must Be Flexible

It is not easy, of course, to anticipate the nature or extent of all the demands which may come upon an institution, but at least, those who build should see to it that the plan of the institution and its contemplated service to the community shall not be so inflexible that the meeting of probable new or increased demands is impossible except at extraordinary expense. The experience of many institutions, particularly tuberculosis sanatoriums, in states where the community is as yet relatively unorganized for preventive work, is that the demand for service increases in direct proportion to the availability of such service and the education of the public in the use of it. It is very much like the situation in a great city where, with every increase of transit facilities, one finds increased use of all of them. In those states where private philanthropy has taken relatively little part in providing for the sick, many hospitals and sanatoriums have been built at public expense which, within less than five years, have been found to be wholly inadequate to meet the increased demand which a better informed public has made upon them. This does not imply merely that provision should be made for increasing capacity within reasonable limits, but also that the need for fixed equipment capable of furnishing service for a larger number of inmates should be anticipated.

The board of trustees of a convalescent home, starting with a small institution of about forty beds, built, on the advice of its architect, an expensive sewage disposal plant with a capacity sufficient for about seventy-five persons, although it was contemplated that the institution would within a few years be expanded to a much greater capacity. As more buildings were added the sewage disposal requirement was found to be far in excess of facilities available. Not only that, the plant which had been built was found to be badly located with reference to new buildings. To make matters worse, it was discovered that owing to the location of the plant and its manner of construction it could not be enlarged satisfactorily so as to provide for the larger number of patients. As the result a new plant had to be built at about three times the cost of the original plant. Several thousand dollars would have been saved if the board of trustees had sought the advice of a sanitary engineer familiar with institutional requirements and fully informed of the board's plan for larger development in the future.

In another state a one-building tuberculosis sanatorium was established as the beginning of a larger development. The engineering equipment, including heating, lighting and pumping machinery, was located in the basement of this building in a space which permitted no additions to equipment. To carry out the contemplated plan of extension of service will require the addition of heating and other engineering units for which no space is now available. This means that within a short time if plans for increased capacity are carried out there will have to be a new building to house the greater equipment. This might have been avoided, of course, by more careful study of the development program by engineering specialists.

## Had to Tunnel for Communication

It would not seem necessary to comment on the wastefulness of a policy of institutional construction which does not give proper weight to consideration of the health, comfort and convenience of inmates, and yet all over the land hospitals and homes are being built, which though architecturally fine and imposing, fail to guarantee these benefits.

In a northwestern state where the winters are particu-

larly long and severe, an institution for the mentally defective was established on a large farm. With so much acreage available those responsible for construction saw no need of compactness of plan and so units for the segregation of various types of inmates were established at some distance apart. It must have been clear to anyone who thought about it at all that communication between buildings would be well-nigh impossible at times in winter, and for many patients a hardship at all times. This proved to be the case. Separate heating plants, separate kitchens and dining rooms, and other separate equipment necessary to make life comfortable for inmates of the isolated units had to be provided. Finally, tunnels were built at great expense in order to provide satisfactory communication of persons and the necessary service between buildings.

At this same institution, the buildings housing inmates, which were badly built to start with, are now dilapidated, unwholesome fire-traps, but instead of spending public money to provide healthful environment for inmates, about $200,000 was recently spent for a fine administration building and living quarters for the superintendent. The contrast between the light, cheerful, beautifully furnished administration building and the dark, dirty, disreputable quarters for inmates is distressing, to say the least. The cost of this institution is out of all proportion to the service which it renders and it will always be more of a public burden than a public benefit.

At a large and recently built general hospital in the west, the architect was called upon to provide a ward for mental cases under observation and temporary treatment. So, with the evident purpose of putting these undesirables as far out of sight and hearing as possible, he planned a ward for them in the basement which was about two-thirds below the ground level. The result is a low, badly-lighted, badly-ventilated, dismal ward which can certainly have no effect except a bad one on the treatment of the patients. Certainly, no one even moderately well informed about what modern treatment of this type of patient demands would think of approving such an arrangement. But there it is, from the point of view of service, a waste of public funds.

## Often Fail to Consider Upkeep

The lack of consideration given to easily anticipated employment problems is one of the major factors in institutional cost and yet it is almost invariably the last one a board or architect thinks about. The average institutional architect, unless well advised by an experienced administrator, is almost certain to be carried away by a desire for beauty often at the expense of utility. In order to get fine lighting effects, he provides great window expanse of a type difficult to clean; he likes to put in bright metal work forgetting that to keep it bright requires the constant attention of cleaners and polishers; he favors spaciousness and fine vistas and so, where he can, he makes provision for it unmindful of the fact that employes at their work will be required to take many unnecessary steps; he likes splendidly landscaped grounds and is not concerned with the fact that the upkeep of beautiful lawns and driveways is likely to become a most expensive thing without adding in proportion to the service of the institution.

A large hospital covering more than a city block was built in a western city. It was an architect's dream, spacious, beautifully lighted and complete with all the niceties of equipment that architects' dreams include. But in this particular state, the eight-hour labor law was rigidly enforced. This meant three shifts for many types of employes. Long corridors meant many steps and consequent waste of employes' time. As the result of strict enforcement of the eight-hour law and the time lost by employes in their jaunts from one duty to another, there were about twice as many employes as would have been needed in a more compact institution.

We would not minimize the value of spaciousness, but certainly when an institution is to be supported at public expense, some consideration should be given to keeping labor costs within reason, and properly adjusted to local employment conditions.

In a public hospital in a western city the board of trustees gave a local artist carte blanche to decorate the institution with the work of his brush. He painted many pictures, more or less pleasing to the eye of patient and visitor, and these were framed and hung throughout wards and corridors. These pictures are, however, such splendid dust catchers that they require the constant attention of cleaners who might better be busy at more essential tasks. The benefit to patients derived from contemplation of these pictures is probably not worth the cost of keeping them clean. It is desirable, of course, to give hospital patients as attractive environment as is consistent with efficient service, but to clutter up hospital wards with things that look nice but make economic use of labor impossible is more often harmful than beneficial to public service. Either there is disorder and uncleanliness or there is an appearance of order and cleanliness at the expense of patient service in other lines.

## Respectable Quarters for Employes

Relatively few public institutions are able to meet the competition of outside employers as regards salaries or opportunity for advancement. The former must, therefore, if they are to secure and keep competent persons and prevent high labor turn-over which is so costly, make up to the employe in other ways for low salary and poor promotional opportunity. This implies that the employe should have something more than a merely tolerable place in which to live and enjoy his being. No employe should be expected to be energetic, cheerful and loyal in service when he is required to spend his hours of rest in a dingy, badly furnished, unattractive room, with probably a sagging, worn-out bed which makes real rest an impossibility. Frequently his living quarters are so arranged that his work is always right under his nose. He is never permitted to feel the enjoyment that every normal person feels when he has an opportunity to put away work and all thought of it for a time. Often the rooms provided for him are somewhere at the back of the institution with an outlook on the stables, the garage, the kitchen or laundry. If there are noises

to be heard in the early morning hours it is his to hear them; if there are unpleasant odors he is almost invariably put where they will assail him.

An institution for mentally defective children in a western state was continually in difficulties because of the incompetence of its employes and the high cost of its service. Its answer to criticism of its inefficiency and extravagance was that it was not able to pay the salaries necessary to secure and hold trained attendants. But low salaries was not the chief reason for constantly changing inefficient personnel and resulting high labor cost. The real reason why decent, self-respecting, trained attendants could not be had was that employes were required to live under conditions which afforded no opportunity for enjoyment of work or rest. The living quarters of many were so located that they were not able to have relief from disturbance by day or night. Their rooms were equipped with patched and misfit furniture. No individual bath or toilet facilities were available to them and the common toilets and baths were a disgrace. No provision was made for their recreation beyond a sitting room which had no equipment except a few broken-down chairs, a phonograph and an odd lot of cracked jazz records. It did not require more than a few weeks of this kind of living to convince a good employe that the institution did not care much about making him contented, and so he stayed only long enough to find a better job.

The reader will quite likely think the case cited an extreme one. Possibly it is, but the situation described is not nearly as uncommon in many of its elements as it ought to be. Even some of the largest and most imposing public institutions in some of our most progressive states have little reason to take pride in their attention to the welfare of their employes. One need not go more than a hundred miles from his own community to find institutions where employes are housed in quarters not much better than those pictured. There is happily the beginning of an understanding of the personnel problem on the part of those concerned in the development of public institutions. No more important matter could engage their attention. The efficiency of an institution no matter how splendidly planned, constructed and equipped depends on its personnel. Efficient employes mean better results at relatively lower cost. Institutional boards and institutional architects would do well to study these matters before they build, and in all cases obtain the judgment of institutional administrators who know what the personnel problems are and how to meet them.

## Should Be No Allowance For Guesswork

Much has been said in this article which may appear to be adversely critical of architects. Unfortunately for the architects they have left many works which justify such criticism. The architect, with but few exceptions, knows little about institutional administration, nor does he need to know, but he should at least know that he does not know, and seek advice from others on matters of which he is ignorant. The board of trustees which puts all its reliance upon the architect's advice is almost certain to make serious and costly mistakes. We have mentioned some of the mistakes which are the product of such procedure. Similar mistakes can be found in almost every community if one takes the trouble to look for them.

The board of trustees now considering the erection of institutional buildings should ask itself these questions: Do we have available all possible information regarding the extent and character of the service for which we propose to build? Have we anticipated probable increases of service requirement and new demands which may be made upon us in the next five years at least? Have we consulted a thoroughly competent and experienced administrator on all features of the program? Have we an architect who understands the essentials of institutional development and is prepared to consult and cooperate with the best available specialists on institutional management? Have we given due consideration in our program to the convenience, health, welfare and happiness of inmates and employes? Have we planned so that the taxpayer may have a reasonable guarantee that his money will not be spent in non-essentials?

If the board can answer these questions in the affirmative, it is ready to go ahead, but if it cannot, then it would be better for it to spend a little more time in study. Anyone who has had to do with the development of large institutional services knows how easy it is to guess wrong. But in the expenditure of public money, there should not be any allowance for guesswork as to those matters about which accurate information can be had for the asking.

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**High Mortality Among Russian Sick.**—There are probably 6,000 unoccupied beds in the asylums and psychiatric clinics of Russia, says Dr. Starobinsky in an account abstracted in the *Annales Medico-Psychologiques*. This is an extraordinary state of affairs and can be explained only by the mortality among the sick which has increased from about nine per cent before the war to thirty per cent at the present time, as related to the actual population. This mortality is explained entirely by famine conditions. The sick die of tuberculosis, pneumonia, heart disease, scorbutus, typhoid, etc. The caloric intake before the war was supposed to be 2,050; in 1918 this had descended to a paper estimate of 1,090, but the patients do not receive even this ration now. Potatoes are lacking, meat is very insufficient and bread is of inferior quality. There is a constant struggle to see to it that the patients received their food. The distribution in the more disturbed wards often presents a picture akin to that of the feeding of the wild beasts in a managerie. Special care must be taken to see to it that attendants do not appropriate the patients' food. For lack of fuel the wards are always cold in winter time; the temperature being between eight and ten degrees centigrade.

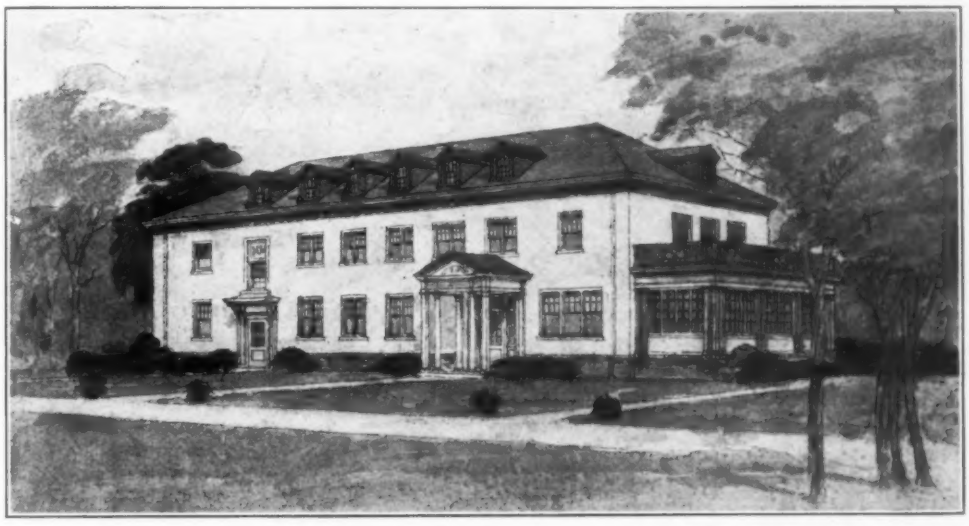
# NURSES' HOMES FOR THE SMALLER TUBERCULOSIS SANATORIUMS

By ROBINSON BOSWORTH, M.D., Executive Secretary, State Advisory Commission, and Sund & Dunham, Architects, Minneapolis.

THE problem met in designing nurses' homes for most of the smaller sanatoriums in the state of Minnesota has been not only to provide accommodations for the nurses, but also for the maids and, sometimes, the superintendent of the institution. The ideal thing would undoubtedly be to have separate buildings for nurses, domestics and superintendent, but the cost of this would be somewhat greater, both for construction and upkeep; and for reasons of economy, most of the buildings are planned to house the entire staff of workers, with the exception of male help. Where the maids are housed in the home, they are given one floor entirely to themselves, with the entrance so arranged that they need not come in contact with the nurses' quarters when entering the building. The superintendent's suite of rooms, if located in the building, is placed in one end and planned so that it will have the maximum of privacy. Sometimes, a separate entrance is provided for this apartment.

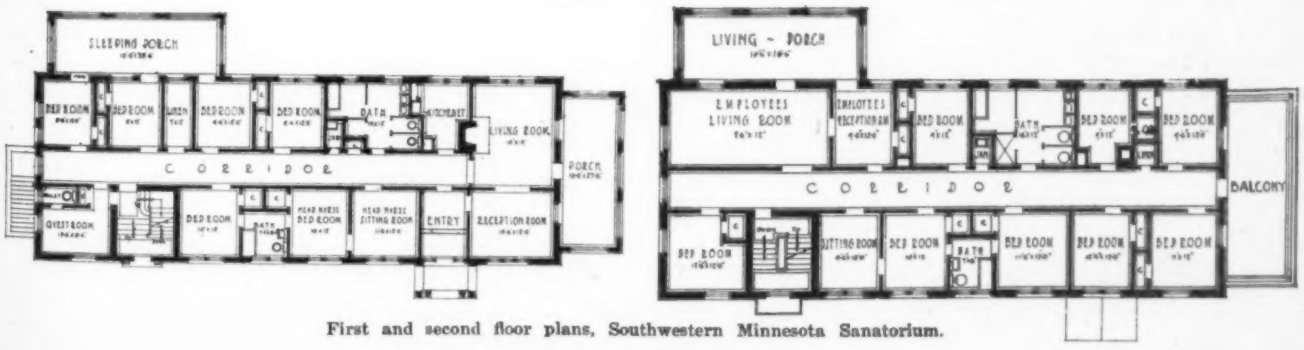
Some of the buildings have double bedrooms but this has been avoided as much as possible, as single rooms, however small, are considered preferable.

In all the homes the aim has been to avoid anything that might have the least appearance of extravagance. At the same time, an effort has been made to make the construction durable and provide essential comforts and recreation facilities.



Nurses' Home, Southwestern Minnesota Sanatorium, Worthington, Minn.

Most of the institutions are located from two to three miles away from the nearest town, and as a consequence the nurses and other employes are dependent very largely on the life at the sanatorium for their recreation. With this in mind, a large living room, ordinarily with a fireplace, is provided, one for the nurses and one on the floor occupied by the domestics. A small kitchenette, where light lunches and refreshments can be prepared, usually adjoins the living room.




First and second floor plans, Southwestern Minnesota Sanatorium.

The nurses' homes are placed from sixty to 300 feet away from the patients' building. This separates the home sufficiently from the patients' quarters so that the nurses are not disturbed by the coughing of the patients or other noise from the institution. It also makes it possible for the occupants of the home to have entertainments and to make as much noise as they wish at night without disturbing the patients, whose regular hour for retiring is nine o'clock. With this in view, the recreation rooms are usually placed in the center of the building or at the end farthest away from the patients.

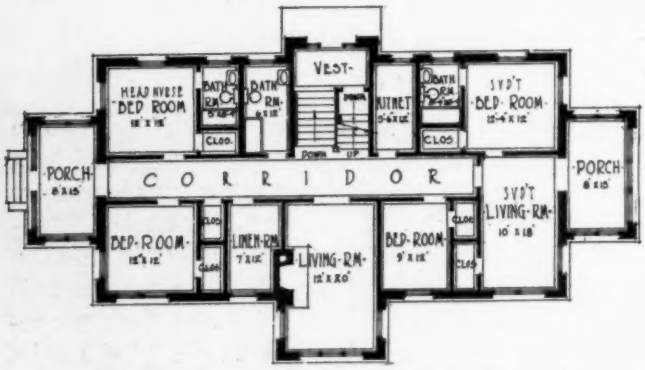
## Tunnel Desirable in Bad Weather

In all the buildings an effort has been made to place the bathrooms, stairways, sewing rooms and linen rooms on the less desirable side and conserve as much as possible of the best view and exposure for the living rooms and bedrooms. All the homes are heated by steam from the central heating plant. Where a tunnel connection is made with the sanatorium building, the pipes are, of course, carried in the tunnel; otherwise they are laid in the ground and thoroughly insulated. It might be said at this time that whenever the appropriation will permit, a tunnel connection with the patients' building should be provided, as it is very desirable to have the pipes run in a place where they can be easily repaired, if any leaks should occur. A tunnel also is desirable in that it serves as a passageway in inclement weather. The nurses are especially anxious to have a tunnel, as it is a great convenience to them in case of an emergency call at night. All they need to do then is to put on a bath robe and run over to the patient's building through the tunnel. This makes it possible for them to get to the patient more quickly and saves them the trouble of bundling up for a walk over to the sanatorium building on a cold night.

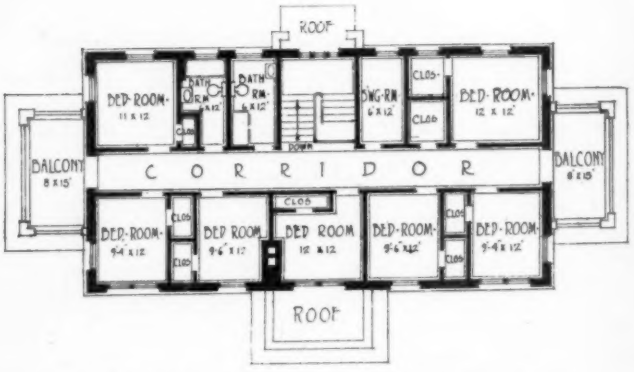
For purposes of illustration, two plans, varying somewhat in their arrangement, have been selected. The first is descriptive of the home at the Riverside Sanatorium, Granite Falls, Minn., the other of the one at the Southwestern Minnesota Sanatorium, Worthington, Minn.

Nurses' Home, Riverside Sanatorium, Granite Falls, Minn.

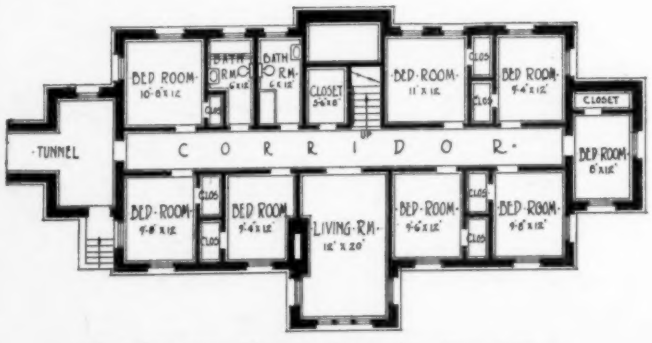
The Riverside home is a three-story building of brick and hollow tile construction. The first floor is given over entirely to maids' quarters. It is connected with the hospital building by a tunnel. The second floor has a suite of rooms for the superintendent, a room with private bath for the head nurse, kitchenette, where light lunches can be prepared, nurses' living room, linen room and two bedrooms for nurses. The third floor contains bedrooms for nurses and a sewing room. The three largest corner rooms on the second and third floors




Second floor plan, Riverside Sanatorium Nurses' Home.




Third floor plan, Riverside Sanatorium Nurses' Home.




First floor plan, Riverside Sanatorium Nurses' Home.

Nurses' Home, Sunnyrest Sanatorium, Crokston, Minn.

is a suite of two rooms and bath for the housekeeper. This bath is also shared by the chief cook, whose room adjoins. All bedrooms are for one person, except the two largest corner rooms. All porches are heated and glazed with casement sash that can be folded to one side. The building is connected with the hospital by a roomy tunnel, starting in the basement at the bottom of

Nurses' Home, Fair Oaks Lodge Sanatorium

are planned for two occupants; all other bedrooms are for one person.

The Worthington home is a two-story and basement building with exterior walls of hollow tile and smooth stucco finish. The first floor is occupied by the nurses and contains the necessary recreation rooms, a suite of rooms for the head nurse, and a guest room in addition to the nurses' sleeping rooms. The second story is for the domestics and is reached by a stairway and entrance separate from that for the nurses' floor. There

Nurses' Home, Lake Julia Sanatorium, Puposky, Minn.

Nurses' Home, Sand Beach Sanatorium

stairway. The stairway is fireproof, as are also the doors connecting it with the corridors on the different floors.

The installation of lavatory with hot and cold running water in each bedroom was considered for both buildings described above, but it was decided that the amount of money available would not permit this desirable feature.

Owing to lack of funds, none of the nurses' homes at the smaller Minnesota county sanatoriums is of fireproof construction, but all, with the exception of two, have exterior walls of brick or loadbearing tile construction.

In general, the nurses' homes are designed to conform in appearance to the main building, although an endeavor has been made to give them a somewhat more domestic appearance.

## 25 DIE IN FIRE AT MANHATTAN STATE HOSPITAL

Twenty-two patients and three attendants lost their lives on February 19 when fire destroyed part of the Manhattan State Hospital on Ward's Island, New York. Ninety insane patients were on the ward when the fire broke out, and sixty-eight of them were dragged out alive, after many of them had fought their rescuers desperately.

Fire was discovered at an early hour in the morning on Ward 43, a three-story brick building in which were confined the violent male patients. Knowing that many of the patients were of the homicidal, suicidal and pyromaniac types, the guards endeavored to get them out of their beds in the burning building by the ruse of an "early breakfast" call. When the flames appeared, the ruse failed and so bitterly did the patients fight the nurses and guards that twenty-two of them, with three of the guards, were trapped. Chances of escape were cut off when the fire had so advanced that a large water tank in the attic crashed through the ceiling and blocked the corridors.

The source of the fire was traced in dramatic fashion to a tremendous explosion off the island, almost twelve hours previous. Ward's Island is a strip of land in the middle of East River, opposite 116th street, Manhattan, near Hell Gate, where blasting has been going on in an effort to deepen the channel. A heavy charge of dynamite was set off the night before and it is believed to have broken the insulation of electric wiring, thus starting a blaze at the hospital which smouldered until morning.

Fire fighting on the island is said to be of the most primitive sort, and aid from Manhattan was delayed by lack of ferryboats at the early hour. The firemen were compelled to lend their early efforts to a rescue of the patients and could do little toward fighting the fire. The building which burned was a detached structure more than fifty years old.

An airplane view of Dunning, Cook County's psychopathic hospital, near Chicago.

# HOSPITAL HEATING AND VENTILATION

By HELEN R. INNIS, Heating and Ventilating Engineer, New York, N. Y.

THE type of apparatus to be used for the heating and ventilation of a hospital is in many cases based upon the first cost of the equipment and its installation. If those who are to be responsible for the maintenance of such equipment are given a fair idea of the difference in the cost of operation of the various types of installation, it may be of help to them in their computations of the actual and unavoidable cost per bed which heating and ventilation will add to their budget. With this better understanding, there will be fewer institutions that will make the original investment in expensive equipment, only to find that they have a heavy liability in the annual cost of the necessary coal and maintenance to enable the production of the desired results.

*Although nature bountifully supplies fresh air, it is not by any means free for hospital use, especially in certain climates and latitudes, Miss Innis, a heating and ventilating engineer, brings out in the accompanying article. If clean, frequently renewed air at the correct temperature and humidity is to be furnished patients, in addition to clean food, clean water and sanitary equipment, it will have to be bought on the market the same as any other commodity. At least, the cost of fuel for warming it, the water for washing and humidifying it and the maintenance of machinery for moving it should be intelligently included among the essentials in every modern hospital building.*

Medical authorities and sanitarians claim that there should be in all buildings what they term "ventilation." The general public, and in many cases the engineers who are to help in producing the result, do not have an exact idea of just what the requirements of "ventilation" are. There was for some time an apparent division between the advocates of so-called "natural" or window ventilation and "artificial" ventilation, which term is often applied to mechanical ventilation. Recently, however, there seems to have been a common-sense agreement that so long as there is "ventilation" it does not make much difference how it is obtained. The mistake lay in using the terms "natural" and "artificial" for if either is ventilation and the other is not, the mere use of an adjective will not alter the fact.

## Essential Factors in Ventilation

There are many factors which enter into the condition of air to be used for ventilation, such as temperature, humidity, dust, bacteria, $CO_2$ content, air motion and odors, but perhaps the requirements stated by Dr. E. Vernon Hill of Chicago give the most simple statement of what seems to have been accepted as the essentials of ventilation. Dr. Hill divides his recommendations into those for natural or window ventilation and those for mechanical ventilation. In both methods the requirement of "a variation of less than 2° from a wet bulb temperature of 57°" is given as an essential of comfort. For natural ventilation he gives as the requirement a minimum of 800 cu. ft. of space per person, in a room in which the window area is not less than 10 per cent of the floor area and which has windows on at least two opposite sides. The mechanical system requirements would vary with the nature of the building for which the equipment was to be furnished, but Dr. Hill requires that in order to have such an equipment properly considered a ventilation equipment, there shall be more than one distribution register in a room, an air washing apparatus, and that all mechanical equipment should be so constructed as to be readily accessible for cleaning and repair.

Exact information on the subject of the modern diseases which originate, propagate, are communicated or whose attack is rendered worse because of lack of ventilation seems rather scarce. It seems to be generally acknowledged, however, that unless a person is plentifully supplied with fresh air he will suffer from lessened vitality. The solution then would seem to be for the medical profession to make known the condition of air which should be maintained in a room with a given type of occupancy, and that condition be produced, if it is within mechanical or engineering possibility.

## Window Has Several Functions

Our ideas of ventilation might be somewhat modified if we considered the chief function of a window. Originally it was an opening in the side wall for the admission of light. Later, portions of these windows were made easily movable so that some air might be obtained through them at times. Other windows in sky-lights or monitors are now often not provided with glass but with louvres so that they are of no use for the admission of light but serve solely for ventilation.

If an engineer wishes to use an open window for ventilation, it would not necessarily be placed

on the outside wall. He might prefer to place it on an inner wall and run a duct from it through the roof or to an inner court so that he might have a source of air supply less contaminated with the dust of the street than the glass or lighting window would be. He might also find it more convenient to put a fan between the source of air supply and the room than to place one in or near the outside window for the purpose of drawing in the air. Should he wish to take further precautions concerning the quality of the air, he could put in screens or filters for removing the dust and dirt, as well as perhaps an air washer for purifying and removing smoke, fumes, bacteria or other impurities and for the regulation of the humidity. There, by a simple process, would be the development of a mechanical equipment for ventilation from a window.

## Mechanical Systems Affect Coal Bill

The item in the hospital budget which would be most affected by the change to mechanical ventilation would be the coal bill. And it is the necessity of considering the coal bill which changes the subject of ventilation from one that is purely physiological or mechanical, to a commercial proposition.

There are three distinct methods by which heat and ventilation may be furnished, and the choice made at the time of installation governs to a large extent the cost of operation and maintenance. Much depends upon the human element in the operation both of wards and of mechanical equipment, yet a reasonable approximation of coal consumption with various types of equipment may be made.

The first method is to supply direct heating surface of sufficient amount to offset the heat loss through walls and glass and allow for a normal change of air once per hour by leakage and partially opened windows. The second method is to supply only enough direct radiation to compensate for the heat loss from the rooms, and provide mechanical ventilation to furnish a given quantity of fresh air per bed per hour, at room temperature. The third method is to dispense with all direct radiation in the room and combine the heating and ventilation by supplying a sufficient quantity of warm air to keep the room at the desired temperature and furnish the required ventilation.

For the sake of comparison in dollars and cents, we shall reduce the proposition to the cost of operation of each of the above methods as applied to a hospital ward twenty (20) feet wide and ninety (90) feet long, suitable for eighteen patients, if each patient were allowed 100 sq. ft. of floor space. With a ceiling height of 12 ft. the rooms would contain 21,600 cubic feet. The exposed wall surface will be considered as 765 square feet, with windows in sufficient number to give a total of 315 square feet of glass surface.

With the first method, if one complete change of air per hour is provided for, this would mean an allowance of 1,200 cubic feet of air per bed, per hour. By the accepted method of figuring, there would be 100 square feet of direct radiation required to provide for this air change, with an additional 200 square feet of radiation to offset the heat loss through the wall and glass surface and maintain the temperature of the room at about 68° F. The coal necessary to supply the demand of this 300 square feet of radiation during the average heating season would be about one ton per bed, or an allowance of eighteen tons per season for this one ward.

Under the second method, with mechanical ventilation used to supply a total of 4,800 cubic feet of air per bed, per hour, it would be necessary to practically double the coal requirement and allow two tons per bed.

The third method, with both heating and ventilation taken care of by the delivery of warm air into the room would treble the original coal requirement, demanding about three tons per bed, which would make this means practically prohibitive from the standpoint of fuel economy.

It will be seen from these figures, that in a hospital where conditions are practically as given in the amount of floor space per bed, proportionate wall and glass exposure, and with an allowance of but one change of air per hour by infiltration or partial ventilation, there will have to be added a minimum of one ton per bed per year for heating, with two tons if any mechanical ventilation is provided. Where mechanical ventilation is provided, it would be possible to reduce the expenditure by recirculating part of the air, but the percentage which might safely be recirculated with various purifying systems has not yet been decided. Possibly for hospital work it might be considered entirely out of the question, although it has been successfully done in industrial buildings and schools in various sections of the country.

## Ventilating Apparatus Varies

A reference to the apparatus involved by the use of the various methods considered might be of interest. It varies from simple, direct radiation to a very complicated equipment of fans, heaters, washers and ducts which must be taken care of while the building is in the course of construction.

If direct radiation alone is used, all that will have to be considered is the most desirable location of the necessary radiation, the kind of radia-

tion that will be most efficient for the purpose and most easily kept clean, and the method of distribution of the steam piping which will insure an efficient and noiseless system that will provide a sufficient supply of steam to all of the heating units. No humidifying apparatus would be considered, and the variability of temperature which is considered essential would be obtained by frequent opening of windows.

The simplest form of ventilation with direct radiation is by means of an exhaust fan or two to remove a certain quantity of air per minute and insure a certain number of air changes: This would necessitate an increase in direct radiation to compensate for the loss in excess of the one change of air allowed for.

The next best method is the installation of unit ventilators. One or more of these is installed under windows in a room, to furnish any given amount of fresh, warm air for ventilation for that particular room. These unit ventilators are equipped with a motor operating a blower, and connected up in such a manner that the air to be heated is drawn through a window or an opening provided in the wall into the upper compartment of the heater. It is then blown down over the radiator to be heated, passes over a water pan which removes some of the dust particles and then is delivered up toward the ceiling at a fairly high velocity. A vent flue of some kind is provided to remove the exhaust air from the room. In this case, the original amount of direct radiation to provide for heat loss through walls and glass surface is needed, as the unit heaters take care of air for ventilation only.

If a duct system is used, the air is drawn into the building from the outside through screened openings located in the basement walls. It is then passed over tempering coils, drawn through a fan and part of it passed over another heater while the other part is by-passed into a duct below the heater. The temperature of the air delivered to the rooms is controlled by dampers which mix varying quantities of the heated and tempered air at the flue base. In most cases the damper is controlled by a thermostat placed in the room to which the air is to be delivered, but it can be controlled by hand operation.

### Must Buy Fresh Air on Market

In the case of both heating and ventilation being furnished by means of warm air delivered to the room, the air from outdoors must be drawn in in sufficient quantity to supply the complete heating as well as the necessary ventilation for each change of air supplied. It is usually drawn in over tempering coils, passed through an air washer and then through re-heaters, as the temperature of air for this purpose is much higher than when air is furnished for ventilation alone.

Fresh air, although bountifully supplied by nature, is not by any means free for hospital use, especially in northern climate and latitude in the winter season. If clean, frequently renewed air at the correct temperature and humidity is to be furnished in addition to clean food, clean water, and sanitary equipment, it will have to be bought in the market the same as any other commodity. At least, the cost of fuel for warming it, the water for washing it and humidifying it, and the maintenance of machinery for moving it into and out of the rooms in which it is needed will have to be known, if heating and ventilating are to be intelligently included in the list of essentials of a modern hospital building.

## URGES HOSPITALS TO HELP SAFEGUARD THEIR R. R. SECURITIES

The board of trustees of the American Hospital Association has seen fit to call the attention of hospitals, which have funds invested in railroad securities, to the desirability of asking their representatives in Congress to take action to safeguard these interests.

The text of a resolution adopted by the board follows:

"RESOLVED, that in view of the recommendations contained in the annual message of the President to Congress respecting the railroad situation and the possibility of congressional action with regard thereto, the secretary be instructed to call the attention of hospitals which have investments in railroad securities to the desirability of proper action to promote their interests and to suggest to them that they inform their various representatives in Congress and other authorities of their large financial interests in the proper solution of the problem, and to request such congressional action as shall lead to the safeguarding of the funds of hospitals invested in railroad securities."

"The railroad situation is developing a problem series for all hospitals which have endowment funds invested in railroad bonds and other securities," says Dr. A. R. Warner, secretary of the American Hospital Association. "When purchased, these securities were considered a most conservative and safe investment but the present unsettled railroad problems are being reflected in the standing of these securities. This can become a very serious matter for all such hospitals."

## USES RADIO IN HOSPITAL CAMPAIGN

One of the first hospitals to employ the radio in a financial campaign was the Lying-In Hospital of Providence, R. I. Before and beginning its intensive campaign for $850,000, the addresses of speakers presenting the hospital needs were broadcasted. As a result a number of contributions were received from various parts of the state, it is said. The present facilities of the Providence Lying-In Hospital are altogether inadequate, it was brought out.

Be not discouraged in performing any task which you know you can do—the gods all assemble to help those who help themselves.

# THE LABORATORY QUARTERS AND EQUIPMENT OF A MODERN HOSPITAL

By MAX KAHN, M.A., M.D., Ph.D., Director of Laboratories and Chief of Clinic of Diseases of Metabolism, Beth Israel Hospital, New York.

AT THE present time there is a tendency to standardize hospital departments and hospital equipment, just as sectional bookcases have been standardized. One decides how many sections of bookcases he wants, and as the demand for book space increases, the order for new sections is issued.

Perhaps, so far as book space is concerned, there exists a ratio (although I doubt it) between the hospital size and the number of volumes. But one cannot make the statement that there is a direct proportion between the number of beds in the hospital and the area of laboratory space and the amount of laboratory equipment.

So far as laboratory space and equipment are concerned, there are two distinct types: (1) the strictly utilitarian laboratory equipped to do only routine examinations of all kinds, and (2) the larger laboratory equipped for research as well as for routine examinations.

## The Small Town Problem

The modern hospital, whether of fifty or 200 beds, needs a certain amount of laboratory space and equipment. It is wrong to think that a 50-bed hospital needs but one-sixth as much laboratory equipment as a 300-bed hospital; and it is certainly erroneous to speak of the requirements of a 50-bed small town hospital laboratory as being much less elaborate than a similar sized laboratory in a large city. The contrary ought to be the existing condition. For whereas in a city hospital one can in case of emergency call into assistance the laboratory of a larger sister institution, in the small town hospital one must always remain self-contained and self-reliant and all emergencies must be foreseen.

In considering the requirements of a routine laboratory, I shall discuss them under the following headings:

1. The character of the work to be done.
2. The equipment and space.
3. The personnel.
4. The budget.

There has been a tendency to circumscribe the work of the routine laboratory by almost geometrical measures. In venturing to criticize an article on laboratory service I recently made the following remarks* which I venture to repeat:

The patients in a small hospital are just as sick as those in large hospitals. Their ailments are as obscure and as baffling in the country as in the city. Disease knows no aristocracy and is not necessarily urban. It is essential that their condition be studied for the purpose of arriving at a correct diagnosis, no matter where they lie.

It must be once for all understood that hospital economics is best served where the patient's health is most rapidly restored. Surely, arriving at an early, correct diagnosis is essential in the proper treatment of patients, and I think medical men will unanimously agree that the laboratory helps greatly toward this end. To forego laboratory examination because of its expense is not only unethical but (from the community point of view) highly uneconomic.

A hospital of fifty beds or more must support a well equipped laboratory. The patient should be charged, or the hospital should add to its budget three to five dollars per week per patient for the proper running of the laboratory. The average stay of a patient in a hospital is about two weeks and the additional expense of six to ten dollars per patient will not add a great burden to the individual and will bring its return in the therapeutic results that will be obtained. Hospitals make their charges according to cost of maintenance and they must invariably consider as part of their maintenance the cost of the laboratory department.

The smaller laboratory must be equipped with all the necessary apparatus and should have space for bacteriological, serological, pathological and biochemical work. About 1,000 to 1,500 square feet should be provided, preferably divided into smaller rooms of 200 square feet. About $3,000 to $5,000 will buy all the equipment necessary. It is unwise to stint the initial expenditure. One cannot say that two Bunsen burners are enough, as I have seen it stated in so many lists of "necessary" laboratory equipment drawn up by hospital administrators. There should be enough Bunsen burners to have several in reserve.

The personnel should consist of a trained man receiving an adequate salary who is to be assisted by at least one technician and an intern. A porter should, of course, be assigned to the laboratory.

The budget for such a laboratory should be between $5,000 and $10,000 a year, depending on the size of the hospital and the number of examinations made. If each patient is charged from three to five dollars per week for laboratory work, the hospital will have no deficit on the laboratory's account at the end of the year.

Under this heading, we must consider those large laboratories connected with large hos-

*Modern Hospital, 1921, xvii, p. 487.

pitals of national and international reputation, where eminent scientists are engaged in research investigations along bacteriological, chemical, serological and pathological lines The scientific contributions from such institutions command respect and attention. In fact the reputation of these institutions is augmented in direct proportion to the original communications that emanate from these laboratories.

The routine work in such hospitals is under direct supervision of the scientists in charge. In the unusual cases, the biochemist or metabolist or pathologist is called into consultation by the clinician and thus the patient is studied completely.

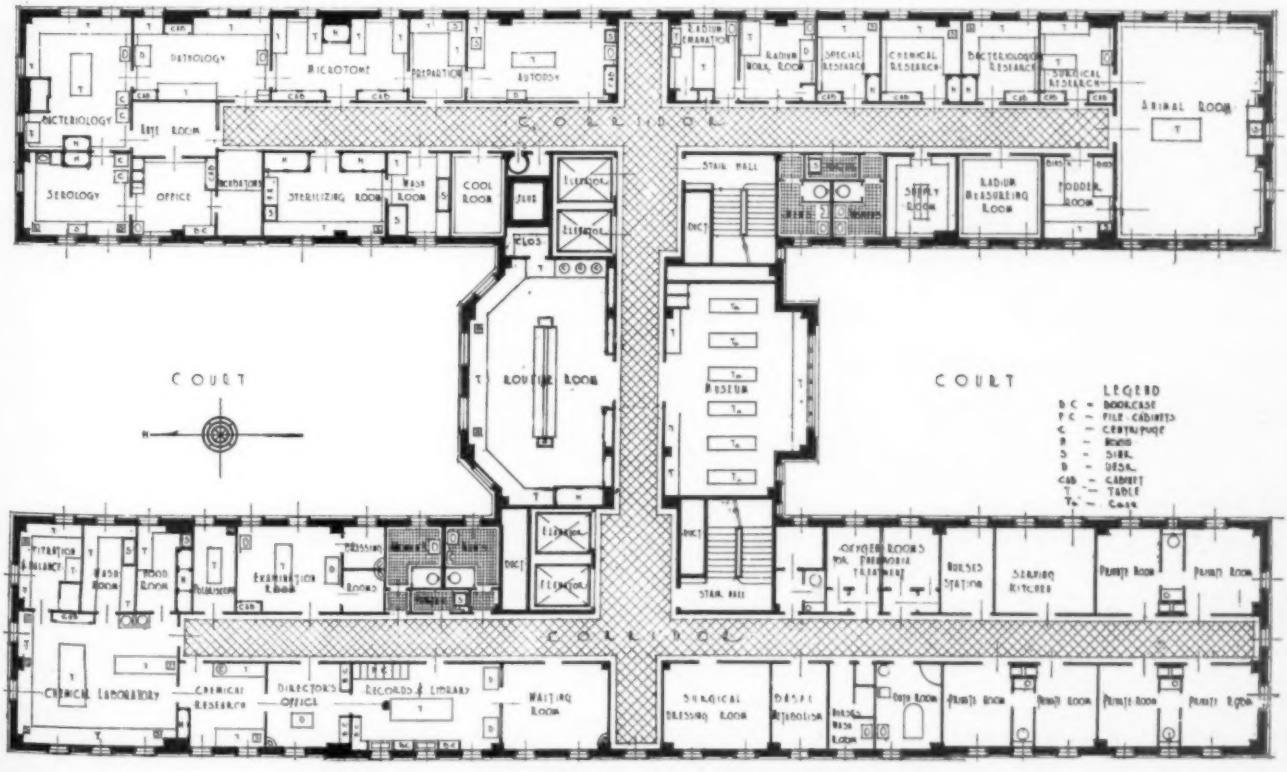
## A Tour of Beth Israel Laboratories

As an example of such a large laboratory, the department of laboratories of the Beth Israel Hospital in New York, now in course of construction, is here described. Its total area is about 15,000 square feet and it is located on the eleventh floor. The personnel, as planned, is as follows: biochemist, bacteriologist and serologist, pathologist, biophysicist, assistant biochemist, assistant bacteriologist and serologist, assistant pathologist, eight technicians, three clerks (in charge of records, library and correspondence), two porters, two washwomen. In addition to the above, one pathological intern and two student interns will be assigned to the laboratory. Space is also provided for at least five research workers.

The visitor will first of all be shown:

1. *The museum* which faces south on the court. It is 32x22 feet and has windows all along the southern wall. This room is to be equipped with six specimen cases (Ta) and with tables along the southern corridor walls for special exhibits. The museum closets will be so fitted with electric lighting as to show the various specimens to the best advantage. The room will also be centrally illuminated. In this chamber only the more interesting specimens will be kept and exhibited. Provisions have been made to keep all other specimens in a large room in the basement. The door to the museum is 5½ feet wide.

2. Across the corridor, which is 7 feet wide, is the *routine room* which faces the north court. It is 36x20 feet in area and has northern light. The door here is 5½ feet wide. In the middle of the room is a table 16x3 feet with a central drain and two sinks, one at either end. Closet space is equipped with gas and electric outlets. Along the entire northern wall is a long table, with electric and gas outlets, with two sinks, 12x12 inches. A hood, 7 feet long, is provided for at the southwestern corner of the room. On the southeastern corner is a space for three electric centrifuges, north of which and still further east, is a large closet for specimen bottles, etc. This room has four large windows and is centrally illuminated. When the room is closed at night, specimens are delivered through a wicket on the corridor wall which opens into a brine closet where they remain until the morning. In this room, are ex-




The plan of the laboratory floor of Beth Israel Hospital, New York

amined the routine urine specimens, blood counts, sputums, smears, feces, etc.

3. A patient sent up for examination or a visitor desiring information is directed to the *waiting room* which faces the western elevators and stairway. This room is 15½x12 feet. It faces Livingston Place and is lighted by two windows. It is equipped, as all waiting rooms are, with comfortable chairs, a table for reading matter and a basin for drinking water. Diagonally opposite the waiting room are the men's and women's toilets. The waiting room is partitioned on its north side by means of a glass wall with a door from the

4. *Record room and library*, so that the clerks in charge of the records will be always supervising the entrances and exits of people into the waiting room. The record room is 21x12 feet and has three doors, to the corridor, the waiting room and the director's office. It has three windows on the western wall. It is centrally illuminated and is equipped with desks for two clerks, reading table, book cases and filing cabinets.

5. The *director's office*, towards the north from the record room, is 12x12 feet and is equipped as the usual office is with desk, book-cases, etc. It communicates with the record room, corridor and the

6. *Director's research laboratory* which is 12x12 feet. It is equipped with work tables and cabinets, sink, hood and centrifuge. The tables have, as usual, gas and electric outlets. This room communicates also with the corridor and the

7. *Chemical laboratory* which is 24x19 feet. It faces the north and west, having three windows on the western and two windows on the northern wall. It is centrally illuminated. Along the two outer walls it has a work table with sinks (12x12 feet) and gas and electric outlets. There are two centre work tables and provisions for cabinets and centrifuges. Besides communicating with the corridor and the research laboratory, it opens on its eastern wall into three rooms, (a) the balance and titration room, (b) the wash room, and (c) the hood room.

(a) *The balance and titration room* faces the court and the street. It is 10x12 feet and is equipped with table for balances and titrating solutions as well as a booth for a delicate balance.

(b) *The wash room* faces the court and is 8x12 feet. It is supplied with sink, drainage table and drying table.

(c) *The hood room* also faces the court and is equipped with hoods and fume closets, so that all work requiring the use of such hoods will be done away from the main laboratory.

8. Opening from the corridor, next to the main chemical laboratory and facing the court, is the *polariscope room*. The window towards the court, can be made completely dark. This room is 6x12 feet, and is provided with sink and table.

9. The *examination room* is 20½x12 feet and faces the court. It is intended here to examine patients, take blood for Wassermann test, gastric analysis, perform lumbar puncture, examine donors, etc. The room has two dressing cubicles, 6x6 feet. There is here an examination table and instrument closet. In the northwest and southeast wings there are lavatory provisions.

10. The northwest wing is devoted to bacteriology, serology and pathology. Facing the court and the street on the northeast wing is the *serological laboratory*. It is 14x12 feet, and is equipped with working tables, hood, sinks and centrifuges. It communicates with the bacteriology laboratory on the east and the office of the bacteriologist on the south.

11. The *bacteriological laboratory* faces the street and the south yard. It is 14x16 feet in area, and is provided with a *transplant room* 3x4 feet, working tables, hood, sinks and centrifuges.

12. The *office of the bacteriologist* is 11x12 feet, and opens on the court. It communicates with the serology laboratory, and by means of an *ante-room* with the corridor. It is equipped with office furniture. One-half of the *incubation room* opens into this office.

13. The *ante-room* is part of the corridor and serves as a waiting-room. It is 8x12 feet and opens into the bacteriology laboratory, the office and the corridor.

14. Communicating with the bacteriology laboratory is the *pathology laboratory*. It has three windows to the yard and also opens into the microtome room and the corridor. It is equipped with the necessary tables, desks, etc.

15. The *microtome room* has two windows to the yard and also communicates with the corridor and preparation room. It is furnished with constant temperature ovens or incubators for paraffin and celloidin work and with provision for freezing microtome.

16. The *preparation room* has one window to the yard. It is 9x12 feet Here preparations are made for autopsy work, and specimens removed are prepared for the museum and microtome work.

17. The *autopsy room* is 21x12 feet. It has three windows to the yard. It communicates with the preparation room and the corridor, the door being in close proximity to the elevators. The autopsy table has a central drain and an

An interesting piece of 1922 construction is the Saginaw General Hospital at Saginaw, Mich., of which Richard E. Schmidt, Garden and Martin are the architects.

over head flushing apparatus. There are sinks for washing the intestines, etc. The morgue is in the basement.

18. The *incubation room* is 6x12 feet. It is divided into two parts, each 6x6 feet, one opening (as has been mentioned before) into the office of the bacteriologist and the other into the corridor. Its wall are well insulated and the room keeps constant temperature.

19. The *sterilizing room* is 18x12 feet and has two windows facing the court. The sterilizers are placed in hoods, so as to avoid the steam, etc. pouring into the room. It communicates with the corridor and the

20. *Wash room* which is 10x12 feet. This room has one window on the court and has large sinks, drainage boards and drying tables as well as storage closets.

21. The *ice room* is 8x12 feet and has brine pipe connection. The room is partitioned by shelves. It opens on the corridor.

22. The southeast wing has, first of all, the animal room which faces the yard and Sixteenth Street. It is 21x32 feet and is soundproof. The floor slopes towards one side where drains are present. Various cages are provided for keeping such animals as rats, mice, guinea-pigs, rabbits, etc. Kennels for dogs are kept in the basement. This room has nine windows and is well lighted and ventilated.

23, 24, 25, 26. On the south side of this corridor are four rooms respectively devoted to (a) *surgical research*, (b) *bacteriological research*, (c) *chemical research*, (d) *special research*. These rooms are 12x12 feet. They face the yard and are adequately equipped. The surgical research room communicates with the animal room and corridor, whereas the other three rooms open only on the corridor.

27. The *fodder room* is 12x12 feet and opens on the corridor and into the animal room. It is provided with bins, etc., for storing the food for the animals.

28. The *general supply room* is 12x12 feet and has shelves for storing glassware, etc.

29, 30, 31. *The radium laboratory* consists of three rooms, (a) the *work room*, (b) *radium emanation room*, and (c) *radium measuring room*. The last room is 20 feet from the others so as not to interfere with the measurements.

The southwest wing is devoted to private rooms for patients suffering from diseases of metabolism such as diabetes, nephritis, gout, etc. One of the rooms here is

32. The *basal metabolism room* equipped with the modern instruments for the determination of basal metabolism of patients. It is 8x12 feet and has a window towards Livingston Place.

## WILL STUDY CLEANING

To study methods of cleaning in hospitals, an anonymous friend has given the American Hospital Association the sum of $1,000. A committee soon is to be appointed to investigate this subject, report to be made at the annual convention in Milwaukee.

The West Wisconsin Conference of the Methodist Episcopal Church in October, 1922, opened the Lakeside Methodist Hospital, a sixty bed institution at Rice Lake.

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The Modern Hospital Publishing Co., Inc.
Otho F. Ball, M.D., *President*
22 East Ontario Street Chicago, Illinois

Joseph J. Weber, M.A., *Editor*

*Editorial Advisers*

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## A VENTILATING CODE OPEN TO DEBATE

THE Industrial Commission of Wisconsin has recently made public the tentative draft of a proposed ventilating and heating code. Some of its provisions are open to serious criticism and should not be allowed to stand in the code when finally adopted.

As tentatively drafted the code is based on the assumption that proper ventilation demands fresh air in given quantity delivered in a given time, and that recirculated air unless it is washed cannot be used except under certain conditions and then only in small quantities.

To gain this end necessitates the installation of a double piped heating and ventilating system with supply and exhaust fans, a system that was installed at great expense in a number of important hospitals, especially twenty or thirty years ago, and later abandoned because of its impracticability and excessive cost of operation. While engineers still hold divergent views on this important subject, the preponderance of evidence gathered by such outstanding authorities as the New York State Commission on Ventilation goes to show that the chemical composition of the air insofar as it affects the occupants of a room is not so important as has been commonly thought, that recirculated air is not necessarily injurious to health and that temperature, moisture and movement are more important and vital to health and comfort. Tests made by these authorities also have demonstrated that where it is possible to have window ventilation the percentage of those affected by diseases of the respiratory organs is greatly reduced. From the standpoint of health, therefore, the system made mandatory by this code is not in keeping with the most up-to-date scientific knowledge on the subject of ventilation.

This code, by eliminating to a large extent the use of direct radiation and substituting the blast system, would probably increase the cost of hospital construction from $300 to $400 per patient bed, and the annual cost of operation about $150 per patient bed, or almost 50c a day. This increased cost would make the construction of many hospitals practically impossible, to the great detriment of the citizens of Wisconsin. The adoption of the code as it stands instead of promoting the construction of new hospitals will compel the use of old and unsatisfactory buildings for many years longer than they would otherwise be used.

In view of the grave doubt that prevails as to the merits of mechanical ventilation and the excessive cost of its installation and operation, would it not be exceedingly unwise for Wisconsin to make the installation of this system obligatory? Should not the state postpone making radical

changes in its building code until it is certain that the code as it now stands, when properly applied, will not produce satisfactory results?

## DO UNPAID BILLS CALL FOR LEGISLATION?

AS IS well known, there are laws on the statute books of most states protecting hotels from being defrauded by their patrons, and some hospital superintendents feel that legislation of a similar nature would furnish excellent protection for hospitals.

Groups of hospitals here and there are contemplating, and in some instances acting through their state associations have been instrumental in securing, the introduction of bills in their respective state legislative bodies that make patrons of hospitals criminally liable in the event that they fail to pay their accounts.

But in this respect the situation in hotels and hospitals is not at all parallel. A man may deliberately take up his abode in a hotel without the slightest intention of paying any reasonable and just bill the hotel may render. Few indeed are the people, however, who go to hospitals unless sickness compels them, and while it is conceivable that now and again a patient may enter a hospital with no intention of paying his bill, in the great majority of cases hospital debts are incurred without any intent to defraud. Not infrequently people who have a modest reserve fund go to a hospital for treatment thinking their illness will be cleared up in a week or ten days. Later it is found that in order to obtain satisfactory results they must remain three, four or even five weeks. A stay of this length more than exhausts their reserve funds and they are honestly unable to meet the total hospital charge. Frequently patients are not in a condition to consider financial questions carefully and reasonably at the time of their admission. Furthermore, the amount of the bill to be incurred is often misunderstood, owing to failure on the part of the physician or surgeon who sends the patient to the hospital, to notify him or a member of his family of the probable course of the case and of all the charges that are likely to be incurred, not only for room and board but also for nursing service, laboratory, x-ray and kindred examinations.

Here and there hospitals will undoubtedly encounter flagrant cases of fraud, but is the number of such cases sufficient to justify general legislation on this subject? Moreover, is there not grave danger that any general legislation of this character may be unwisely invoked by the not too discreet and discriminating superintendent, to the detriment not only of his own institution but of hospitals as a whole?

## DISPENSARY STANDARDS

THERE is no doubt that at the present time the dispensary is the weakest department in the vast majority of hospitals. Without question, a general adoption of the standards in organization and management of out-patient departments as published in the February issue of THE MODERN HOSPITAL would bring about a tremendous improvement in clinic work.

The difficulty is, of course, that the clinics should conform to the spirit as well as to the letter of these standards. The accomplishment of this will require much education of physicians, hospital administrators and trustees. There is always a danger when general standards of procedure are recommended, such as these, or those of the American College of Surgeons, that an institution will carry out the letter of the recommendations without grasping the fundamental purpose of the plan. At the present time we see hospitals establish laboratories and place them under the charge of an incompetent, self-styled pathologist in order to conform to the standards of the American College of Surgeons. The hospital is then put in the group of approved institutions and sits back on its laurels, satisfied that everything is all right. In other words, organization without idealism of purpose and without men capable of using this organization to the best ends, serves no useful purpose and gives a false sense of accomplishment.

These remarks, of course, do not detract from the excellence of the standards as outlined. They merely point out some of the difficulties of execution. For instance, we agree that it is very fundamental that the professional staffs of the hospital and the out-patient department should constitute one organization and that the director of each service should be continuously in charge both of the wards and of the clinic. Yet, it is going to be very difficult to find chiefs of service who will give the time and devotion necessary to make such an arrangement of real value. With the increasing demands placed on the time of the physicians by the hospital and dispensary work, if it is carried on as it should be, the question of giving them compensation for the time spent becomes increasingly acute.

The whole reorganization of the out-patient clinics will be a very expensive matter. One of the most important recommendations is to relieve the physician as fully as possible of duties not directly concerned with the professional care of the patients. In a large clinic this will mean a

large staff of trained technical assistants. The cost of providing such assistants has, in the experience of many, been one of the chief stumbling blocks in the way of the improvement of clinic work.

The statement that the out-patient clinic should cooperate with charitable societies and other agencies is very timely. There is far too much duplication of work by different charitable organizations, and it is must important that methods be devised to prevent this wasteful overlapping and to facilitate a free interchange of information and a proper division of work between the various charitable agencies.

The most difficult task that the hospital administrator will have in establishing out-patient clinics according to the suggested standards will be, first, the raising of adequate funds; and, secondly, the education of his medical staff to an appreciation of the fact that the out-patient department is coordinate with the ward service and worthy of the same painstaking care and attention.

## COST OF VENTILATION

THE cost of ventilation is a subject that every hospital board must consider in seeing to it that every patient is furnished sufficient fresh air to maintain and improve his vitality. No thinking person would deprive a patient of air, an easy and cheap thing to furnish in summer, but not so easy and indeed quite expensive in winter, owing to the fact that considerable coal is required to heat an adequate quantity of air. Miss Innes (see article p. 243) goes somewhat into detail to explain what it costs to overventilate a hospital ward during cold weather. She also touches on the general way in which ventilation is accomplished. The question that comes to the reader's mind is, what does it cost to heat air when ventilation is furnished the entire hospital?

In the average well-equipped hospital the space occupied for patients in wards and private rooms averages approximately 1,200 cu. ft. per patient, but if the corridors, laboratories, kitchens and all other service portions of the building are taken into account, there are approximately 7,000 cu. ft. in the building for each patient. Notwithstanding the fact that 4,800 cubic feet of fresh air is delivered for each patient, as indicated by Miss Innes, (thereby doubling the amount of coal required for heating and ventilating the 1,200 cubic feet occupied by the patient) the total actual extra fuel cost of the entire hospital is increased only 16.6 per cent.

If air is exhausted from the serving rooms, utility rooms, toilets and interior spaces by means of fans installed in the upper portions of the building and the fresh air is allowed to enter through the windows into the wards and private rooms, the actual amount of coal used for heating the entire building will not be increased by more than five per cent. This estimate is based on an allowance of 2,400 cubic feet of fresh air per patient per hour, an amount more than ample for the requirements of patient and nurse.

The construction of vertical ducts without connecting them to fans does not assure ventilation for a building. Only in the winter months when the interior of the building is warmer than the outdoor air will the warm air rise in such ducts. In order to move the proper amount of air, it is necessary to install fans. These can either force air into the building or take it out.

Very few hospitals are located in places where air washers are actually needed. Recirculating a part of the hospital air through an air washer is not good practice. Tests have proved that an air washer may be a germ incubator, and the recirculated air may contain germs more dangerous than a little smoke or dust which a washer removes.

The amount of direct radiation in private rooms and wards should be proportioned to heat properly two complete air changes per hour. If this is done and if mechanical exhaust fans are operated to exhaust the air from rooms where air changes are required, the hospital will have the simplest and least expensive system. Notwithstanding the fact that the fans may not always be in operation, the extra radiator in the patient's room will have a tendency to raise the temperature a little above normal; windows will then be raised and, in order to hold the temperature at a more comfortable degree, fresh air will be supplied by natural means.

The cost of giving each patient adequate fresh warmed air will not overburden the hospital budget, provided ventilation is not carried to extremes, and in the majority of hospitals enough fuel can be saved by proper supervision and firing in the boiler room to more than balance the cost of ventilation.

## DR. HALL PASSES AWAY

AS WE go to press, word is received of the death of Dr. Herbert J. Hall, editor of the Department of Occupational Therapy and Rehabilitation and leading figure in that field, which occurred on February 19 after an illness of many months. Until his illness made his active participation impossible, Dr. Hall for a number of years directed the affairs of the American Occupational Therapy Association as president. A review of Dr. Hall's activities and achievements will appear in the April issue.

# ROBERT PACKER HOSPITAL "LISTENS IN"

By H. E. BISHOP, Superintendent, Robert Packer Hospital, Sayre, Pa.

THE wonders of radio that have so seized our country at the present time are bringing many comforts and pleasures to hospital patients. The radio is also serving as a source of entertainment, diversion, and instruction to nurses and to doctors as well. It brings to us all the best talent in music that the nation possesses, and gives us instruction from our foremost teachers. It is true that the music, the services, the educational talks, the bedtime stories, or the stock reports do not always "come in" satisfactorily, and that many times the results are disappointing, but surely with the wonderful advances already made in radio a way will be found to prevent or minimize the so-called "fading" and to keep down the noise within reasonable limits. Even at the present time, when conditions are satisfactory, the results are all that could be desired.

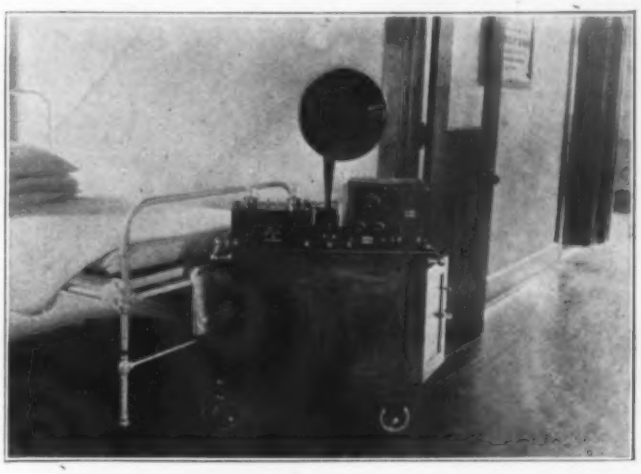
At the Robert Packer Hospital we have installed a complete radiophone receiving set in a portable carriage made by our carpenter. The set consists of a short wave regenerative receiver model R C Westinghouse set, R-3 Magnavox radio horn, Model C Magnavox power amplifier, the necessary A and B batteries and Tungar battery charger. A strong cabinet is necessary to carry the weight of the storage battery and other equipment. All of the equipment is mounted in and on a cabinet which has Colson six-inch ball bearing wheels and is as portable as a tea-wagon. Two separate aerials give us three receiving stations in three different parts of the hospital. The aerials terminate on two-spring silver contact jacks mounted flush in the wall. The aerial and ground connection of the set proper terminate in plugs which fit in the jacks. The machine is readily moved from one point to another, and it is only necessary to plug in two cords as you would plug in a telephone connection.

We use the outfit during the afternoon and evening until 9 p. m., part of the time in the men's ward, and part of the time in the women's ward. As lights are put out at nine o'clock, the outfit is then moved to the reception room where it is enjoyed by the nurses.

Our interns and one head orderly operate the outfit.

It is necessary to have the outfit on a portable carriage even though there were but one station as the vibration of the Tungar charger during the day, while the battery is charging, is annoying and objectionable. A combination of switches inside of the cabinet sets up the connection for charging the storage batteries, and the machine is moved to an out-of-the-way place where it may be attached to any convenient electric light socket, and the battery charged without annoyance.

Our nearest broadcasting station is over 200 miles away so we feel that our results have been exceptionally good. Our patients have enjoyed the music, church services, and lectures from Pittsburgh, Newark, New York, Schenectady, Davenport, Birmingham, Louisville, Chicago and several other stations.



The radiophone receiving set has been placed on a portable carriage so that it can be wheeled about from ward to ward. This picture shows the radio in the women's ward; the cabinet door is open to permit closing switches.

After lights are out on the wards, the nurses get their turn at radio concerts. The interns operate the outfit.

## INCOME TAXES OF HOSPITAL EMPLOYES

An interpretation of the income tax law relating to the hospital employes when they are quartered in the hospital is asked by Miss Harriet E. Hartry, superintendent of St. Barnabas Hospital, Minneapolis.

In a communication to the editor, Miss Hartry asks if the article published in THE MODERN HOSPITAL for April, 1922—calling attention to the fact that where employes are subject to immediate service on demand at any time, the value of such quarters and meals at the hospital do not represent additional compensation to the employes—is not contradicted by Mr. Ewing Laporte in his article on the income tax law as applied to hospitals published in February, 1923.

Mr. Laporte replies that some hospitals have assumed that O.D. 915, reported in the April, 1922 issue, is general in effect, covering all cases of subsistence furnished to employes, whereas the contrary is the fact. It applies only to the exceptional case, he declares, and hence he thought it better to omit reference to it in his article, believing that hospitals making returns without advice of counsel would err on the safe side, if they reported the value of subsistence furnished their employes. There are penalties for failure to make all reports due.

There is no conflict between the two statements concerning the ruling, Mr. Laporte brings out, but the latter article is general in scope and did not purport to go into detail.

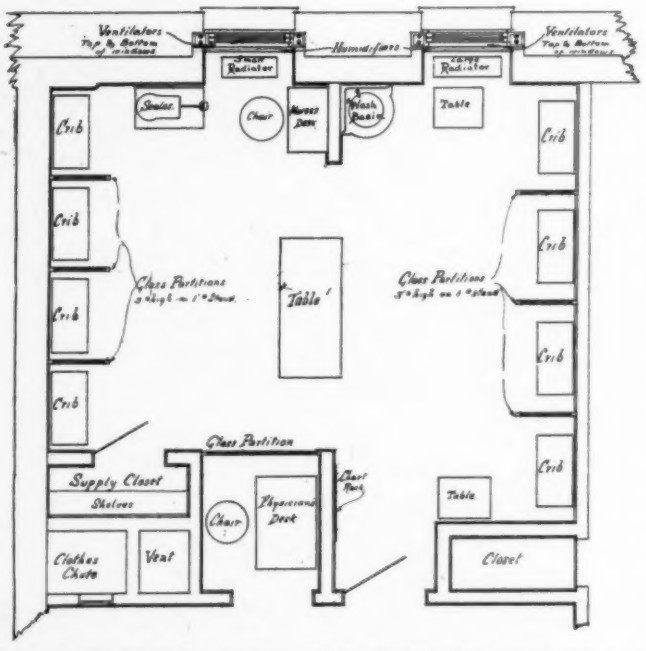
# A NURSERY FOR PREMATURE INFANTS

By JOHN R. HOWARD, JR., Superintendent, New York Nursery and Child's Hospital, New York City.

THREE of the principal maternity hospitals in New York have no special nursery for premature babies, for the reason, possibly, that the number of prematures born in the hospital does not warrant it, and that babies from outside the hospital are not received for treatment. It is possible, also, that these hospitals have found that premature babies do well in the general maternity nurseries, given the necessary heat by electric pads, special nourishment, and extraordinary care. Of seven hospitals most likely to care for premature babies, inquiry shows that none of them use incubators. One of them, in a recent article on the care of prematures, was described as using an incubator, but the fact is that the incubator is no longer used.

Four of these seven hospitals have special nurseries. The New York Nursery and Child's Hospital, having a maternity service, indoor and out, which averages 200 births a month, and a children's service as well, operates a premature nursery in the pediatric department, and receives in it infants from the obstetric service and from wherever they may be sent.

This nursery is equipped much like the general nurseries. The temperature is kept at 80 degrees, and for this purpose there are two radiators of unequal size: the small one for mild weather, the large one for cold, and the two together for exceptionally cold. Additional heat according to individual need is furnished by electric pads, for which base plugs are provided. To provide this individual heat for a premature baby in a general nursery has the disadvantage that the infant cannot be removed from his bassinet, for change or bathing, without subjecting him to a temperature that is too low for safety.




Plan of the premature nursery, which occupies the seventh floor of the New York Nursery and Child's Hospital.

The result of such high temperature is to reduce the normal humidity. To offset this, pans of water are kept on each radiator, with mesh wicks spread on perforated shelves. Temperature and relative humidity readings are recorded every four hours.

Ventilation is obtained by common window ventilators at the bottom of the sashes of the two windows, and by a screened ventilator *at the top*. The door to the nursery is always open to give cross ventilation, the room not being a corner room. The infants' heads are protected from drafts by a muslin hood, which completely covers the bassinet over a space about eight inches from the top. As premature infants are peculiarly susceptible to respiratory infections, protection from drafts without killing the gentle movement of the air is imperative. Science has shown that the physical condition of air (temperature, humidity, motion) has a more vital effect upon the body than the chemical condition. Both physical and chemical conditions are more easily controlled in a ward than in an incubator.

It was found recently that the infants appeared to do better when the ward was not full. Accordingly, the number of bassinets has been reduced a third and the acceptances limited accordingly. It seems likely that the number of adults needed to care for the larger number had as much to do with the crowding as the infants did. This is where cubic feet of air space is not always carefully estimated.

The premature ward described has no cubicles, as the accompanying picture shows. The trouble with most cubicles is that they interfere with ventilation. A picture of a newly equipped septic nursery also is shown. Here the glass partitions are large enough to prevent cross infection, and small enough for minimum interference with ventilation, being one foot from floor, three feet high, and but two feet deep. The tables underneath the bassinets are equipped for individual treatment (this hospital does not use the centralized washing slab or dressing table), and can be pulled out at convenience. It is probable that such equipment would be better for a premature nursery, and this nursery is about to be so equipped. At present, when an infant develops an infection of any kind, respiratory, skin, or whatever, he is removed from the premature nursery and isolated. With the cubicle system this will be unnecessary.

After all is said and done, success with premature babies, after prompt removal to a proper temperature, depends upon nourishment and infinitely careful nursing. Breast milk is the one desiratum, and a special nurse devotes her whole time to obtaining this, by expression, from the mothers who have been delivered in the hospital's indoor and outdoor service. Success in this effort is largely responsible for the results obtained.

One nurse is assigned to the care of each four infants. The rules for nursing care are appended.

### Routine in Premature Room

Temperature of room, 78 to 80 degrees F, hygrometer reading. Water in humidors in radiators.

*Identification*: Babies wear anklet with name plainly written in indelible ink. Admission card at head of bed in holder for that purpose.

*Weight*: Babies are weighed daily when bathed.

*Bath*: Babies are bathed daily with warm sterile albolene and cotton. Buttocks cleansed with warm albolene and cotton each time diapers are changed.

*Eyes*: No treatment unless ordered. If discharging, eyes are cleansed with 2 per cent boric solution on sterile cotton.

*Mouth*: No treatment, unless ordered by doctor.

The newly equipped septic nursery at the New York Nursery and Child's Hospital. The glass partitions are large enough to prevent cross infection but small enough for a minimum interference with ventilation.

A corner of the premature nursery, New York Nursery and Child's Hospital. The room is kept at a temperature of 80 degrees with ample ventilation. Hoods are placed on the bassinets to protect the babies from draft.

*Temperature*: Babies are taken from bassinet every four hours for temperature and changing.

*Feedings*: Fed with special small nipple, on nurse's lap if necessary. If baby refuses or cannot nurse from bottle, Breck Feeder or a medicine dropper is used. Fluid charts are kept on all babies. Nursing charts are kept on babies that go to the breast.

*Clothing*: Babies are kept in warm canton flannel bags with hood, *not cotton*. Winter bag made of double weight canton flannel. Besides being in this bag, baby wears shirt and two diapers. One soft woolen blanket only is allowed on the bed. A hot water bottle, temperature 115°, is kept beneath the pad which lies under the baby. The water is changed every four hours. Extra heat given by electric pad. Electric pads are never placed under covers of baby's bed. Head of bassinet protected by muslin shield.

*For Cyanosis*, until arrival of doctor, nurses are permitted to give: Artificial respiration. Hold baby head down. Wipe mucus from mouth. Make baby cry by slapping soles of feet. Mustard bath.

*Emergency equipment*: hypodermic tray, oxygen tank.

## JUDGES OF ARCHITECTURAL CONTEST TO MEET THIS MONTH

Names of the winners of THE MODERN HOSPITAL'S $1,000 architectural contest for small hospital plans, together with the prize-winning designs, will be published in the April issue. The five hospital administrators and architects who comprise the jury of award will assemble in Chicago the week of March 5 to go over the drawings.

Dr. S. S. Goldwater, director of Mount Sinai Hospital, New York, and hospital consultant, is chairman of the jury. Other judges are Asa S. Bacon of Chicago, president of the American Hospital Association; Clarence H. Johnston of St. Paul, Minnesota, state architect; William Buck Stratton of Stratton and Snyder, Detroit architects; and Miss Adelaide N. Lewis, superintendent of the Kewanee (Ill.) Public Hospital.

As the March building and equipment number goes to press, drawings are still arriving at the Chicago office of THE MODERN HOSPITAL. These plans, of course, are from foreign contestants, rules of the competition requiring that all designs must be in the mail or express office by February 1. This meant that all domestic contributions to the competition arrived in Chicago early in February.

The prizes are $500, $300 and $200 for the three best designs; honorable mention will be given the two ranked next in order. Space has been obtained in a building in the Chicago loop district where, for the conveniences of the judges, the designs will be hung. Each set of plans consists of three sheets; on the first will be the perspective and plat plan; on a second sheet, the floor plans; and on a third sheet, the two elevations and section. The perspective will be in pen and ink without wash or color, and may have accessories such as trees, shrubbery, automobiles and persons.

The jury will base its decision on the merits of the plans from the standpoint of economy in construction and efficient operation, the integrity of the presentation and such other points as it deems best.

All plans will be for a hospital of from 30 to 40 beds. The building will have from sixteen to twenty private or semi-private rooms, women's, men's, children's and maternity wards, and rooms for recovery and segregation. It will be so designed as to permit of expansion.

One of the major ideas behind the contest is to bring out new thought, and the competitors were given freedom to introduce into the plans such elements as they regard desirable which were not included in the slated program.

## MAY PUBLISH BOOK ON HOSPITAL LIBRARY

The American Library Association has in hand the manuscript for a book on "The Hospital Library" which will be published, if a real demand for it is evidenced by advance orders. The book has been edited and in large part written by Edith Kathleen Jones, general secretary, division of public libraries, Massachusetts department of education, Boston. She was formerly librarian of the McLean Hospital, Waverly, Mass., and is now chairman of the A. L. A. committee on hospital libraries. She has probably given more thought to the development of practical library service in hospitals than any other person.

The material brought together for this book includes chapters on the scope of hospital library service; hospital library organization and administration; book selection; the medical library; serving the children's wards; stories to read aloud; and a list of over 2,000 books to meet the needs of hospital patients and nurses. There is also a selected list of magazines for the hospital.

The book will be illustrated with photographs of hospital library rooms, equipment and activities. Practical advice is given on what to do and what to avoid in the highly specialized field it covers.

It will be useful not only to hospital and library authorities, but to persons responsible for libraries in other institutions for both adults and children.

It is estimated that the material will make a book of about 224 pages, which will be issued in attractive form, cloth bound, at $2.25.

Readers interested in hospital library work from any standpoint are being asked to place advance orders and thus make possible publication of the book.

# RECENT LEGAL DECISIONS AFFECTING HOSPITALS

By DOROTHY KETCHAM, Ann Arbor, Mich.

The following cases although immediately related to the general problem of the hospital, do not involve the hospital as litigant. Thus, the doctrine of charitable uses, the assignment of wills, incorporation, and the release from liability of a cemetery association become important in the establishment of precedent. The interpretation of the last case is dependent upon the statutory construction of the law being judicially considered.

**Bequests to Unincorporated Societies**

Although the case at hand involves a free library association and not a hospital, the recent decision of the Supreme Court of Pennsylvania has a direct bearing upon the general law of bequests made for religious or charitable purposes. The situation will not be stated, but the controversy arose in the case over the identity of the legatee inasmuch as no single institution exactly answered the description. The court held, among other things, that the fact that the institution was not a corporation is unimportant. "It is now settled in Pennsylvania that a bequest for religious or charitable purposes may be lawfully made to an unincorporated society."—*Re: Shand's Estate, 118 A 623.*

**Non-Profit Cemetery Association Not Liable**

A religious corporation selling burial privileges in its cemetery and devoting its net proceeds to religious or charitable purposes, according to the New York Court of Appeals, November 2, 1922, was not conducting a business for "pecuniary gain." Hence it follows that in an action against it by an injured employe it would not be deprived of these defenses because it had not come under the compensation law.

The respondent in the case was employed as a laborer in the Cathedral's cemetery. While he was excavating the foundation for a monument he was injured, by negligence of the appellant. The employment was admittedly a hazardous one, and yet the appellant had not protected its employe under the provisions of the Workmen's Compensation Law. The respondent brought action to recover damages, a verdict being found for the respondent after, in trial, the judge held as a matter of law that questions of assumed risk and contributory negligence were immaterial.

The question is raised as to the correctness of the ruling, the court basing its answer upon Sections 3 and 5, defining the term employment to include "employment only in a trade, business or occupation carried on by the employer for pecuniary gain, or in connection therewith." Only in case the workman is engaged in an employment so defined, does the act apply as stated in Section 10. In the opinion of the court the appellant was not engaged in business for pecuniary gain. It owned a cemetery and sold burial privileges for which it received money. "But the one fact that money is received by the employer for property sold or privileges granted is not sufficient to bring him within the definition of carrying on business for pecuniary gain. We may concede that the regular sale of burial rights in a large cemetery to an appellant who agrees to comply with conditions imposed, is a business. That is not enough. The purpose of the business must be profit. Pecuniary gain as used in the statute merely means that the employer must be carrying on a trade, business or occupation for gain."

In the situation at hand there were no salaries, no dividends, no division of profits directly or indirectly. "Substantially all the sums received are used for the maintenance of the cemetery. If incidentally there is any surplus, it is used for the charitable objects of the corporation. To say it is engaged in business for profit is an abuse of language. We attempt to lay down no general principle that will serve the test under varying conditions. We hold that the statute applies to a corporation engaged in a trade, business, or occupation carried on for pecuniary gain, and that the appellant was not so engaged." The decision of the lower courts was reversed and a new trial granted.—*Dillon vs. Trustees of St. Patrick's Cathedral in City of New York, 137 N. E. 31.*

**Intent of Will Is Executed**

A case recently decided by the Supreme Court of Arkansas involved the construction of a will. A testator disinherited his heirs and devised certain land as a site for an orphans' home to be under the direction of a lodge. He devised the rest of his property to establish and maintain a sanitarium under the control of the same lodge. After the compromise over the will was reached, the income was insufficient to carry on both projects, consequently the chancery court executed the estate according to the doctrine of *cy pres*. "Devises for charitable purposes that are void at law are often sustained in chancery. Where a literal execution of a charitable devise becomes inexpedient or impracticable, the court will execute it as nearly as it can according to the original purpose." It was held that the action of the court was justified. A dissenting opinion points out that apparently "the testator had in mind solely the location of an orphans' home upon the site in question, to be operated and controlled by the fraternity mentioned, as trustee; therefore, there was no general charitable intent to which the specific intent with regard to methods or means could be adjusted. "No American court has ever gone that far," and therefore he does not concur in a decision which gives the lodge "the authority to use this property, or to dispose of it, for any purpose other than that prescribed in the will."—*McCanal vs. Grand Lodge I. O. O. F., 243 S. W. 870.*

## DR. WOODS AT CLEVELAND

Dr. C. S. Woods, former superintendent of the Methodist Episcopal Hospital at Indianapolis, recently has been named superintendent of St. Luke's Hospital, Cleveland. Dr. Woods is president of the American Protestant Hospital Association. This organization has announced that its annual meeting will be held in Milwaukee, October 26-28, immediately preceding the sessions of the American Hospital Association.

## ILLINOIS ASSOCIATION MEETS

The annual meeting of the Illinois Hospital Association was scheduled to be held in Chicago on March 2, at which time election of officers, discussion of impending legislation affecting hospitals, amalgamation with the Down State Hospital Association and other business of importance was to be acted upon. No general meetings of the association were held during 1922.

# VOLUNTEER SERVICE IN A CHILDREN'S HOSPITAL

By BENA M. HENDERSON, R.N., Superintendent, The Children's Memorial Hospital, Chicago.

MOST interesting and, because of its comparative newness, not widely known, is volunteer service by lay women in hospitals, clinics and dispensaries which was largely the outcome of the desire to render some service during the period of the great war. One group of lay women, however, prior to our entry into the war, had fitted themselves in peace times by training and practice to be of great value to The Children's Memorial Hospital, Chicago; this service was of unusual value during the period of war when the services of nurses and physicians had to be eliminated whenever possible.

Early in 1916 the establishment of an infant clinic in the dispensary of The Children's Memorial Hospital demanded quite an increase in the corps of workers. A number of members of the social service committee of the hospital offered themselves for preparation for this particular work. Under the supervision of the nurse who was placed in charge of the clinic and with the cooperation and encouragement of the physician by whom it had been established, this group of workers gradually became proficient in the particular duty each was called upon to perform. A chairman or head worker of this volunteer group was chosen. This worker was one who was quite willing to do her share of the actual work, and who was mterested and determined that others should also do their work in the best possible way. She, too, was responsible for the attendance and discipline of the workers when on duty. Rules relating to each separate duty were made and strict adherence to them was required. Absence from the clinic by any member ill or out of town left a vacancy for which there were always anxiously waiting applicants.

## Five Volunteer Workers at Each Clinic

The clinics are held three times a week and fifteen workers are necessary in order that five are present at each clinic, each worker being in attendance only once a week.

Upon admission to the clinic, after the infant has been received by the registrar of the dispensary, one of the volunteer workers is prepared to take the history and condition of the child during the preceding twenty-four hours. This gives the mother an opportunity to relate without delay to a sympathetic, unhurried listener a full story of her baby's condition. From the story given by the mother, the worker, by leading questions, is able to obtain almost anything the physician may desire to know about the patient relative to the feeding and stools on the previous day.

By another worker the child is undressed and weight and temperature taken and recorded. In order that all mistakes may be eliminated, a second and more experienced worker checks up on the record of the weight and temperature of the child. The child is now ready for admission to the clinic room and is passed in by a fourth worker who is herself a steering committee. With the patient goes the previous history and the record already made at this visit. The fifth worker, with her desk immediately to the left of the examining physician, is ready for the history card as soon as it has been read by the physician and to her is dictated the physical findings and any additional information the physician may wish to have recorded. This worker makes a copy for the mother of the feeding prescribed and another one for the record for future reference.

The success of our first undertaking in the establishment of volunteer service encouraged us to extend this service to several other departments. At present, the volunteer service of The Children's Memorial Hospital includes several additional workers in the out-patient department who make records of physical findings for the nose and throat department, eye department and orthopedic and general medical clinics. This same service is rendered in the making of supplies, occupational instruction and in classifying and filing of records.

During the years since this work was established the personnel of both physicians and nurses has changed, but many of the original workers continue to carry the responsibility assumed by them more than seven years ago. The success of the work, particularly that in the infant clinic, is almost entirely due to the wise and tactful chairman chosen and to the two physicians under whose charge this work has been developed.

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Refrain tonight, and that shall lend a hand of easiness to the next abstinence; the next more easy; for use can almost change the stamp of nature, and either curb the devil, or throw him out with wondrous potency.—Shakespeare.

Scenes at The Children's Memorial Hospital, Chicago, where for seven years volunteer workers have served in various clinics.

# SOME PRINCIPLES COMMON TO LARGE AND SMALL HOSPITALS

By DAVID STEWART, M.D., Superintendent, Manitoba Sanatorium, Ninette, Manitoba.

THE hospitals of the province of Manitoba, which join in the Manitoba Hospital Association, on first consideration have little in common with one another. Their unlikenesses are much more evident than their likenesses. There are hospitals of more than 500 beds and hospitals of less than five; modern metropolitan hospitals and shelters of rough boards in the wilderness for the sick; general hospitals caring for the commoner diseases; special hospitals for expectant mothers, for children, for those with infectious diseases, for the mentally diseased, for the tuberculous, for the aged and the convalescent; hospitals built and maintained by the province, by cities, muncipalities, and groups of municipalities, and by church, Red Cross, community and other voluntary organizations.

In each hospital of any size there are diversities of interest, the actual medical and nursing care of the sick, economics, finance, construction, maintenance, education, research.

What purpose can be served by bringing together representatives of so many unlikenesses and diversities? What can be discussed that will equally interest the chairman of a city hospital board and the public health worker in the hinterland; the alienist and the engineer; the country hospital trustee and the professor of medicine; the accountant and the sanatorium worker; the teacher of nurses and the surgeon; the cabinet minister and the more ordinary good citizen?

## Care of Sick Is First Problem

Yet on better consideration the common ground among all these hospitals and interests is greater than their dissimilarities and more impressive than their apparent diversities. Let us consider that common ground.

*In the first place, all are engaged in the care of the sick and share in the problem of that care.*

The hospital as we know it is comparatively modern. The cave men had nothing to correspond to it. To primitive peoples living under hard conditions the ill and the aged were burdens that could scarcely be borne. In the Arctic Circle they were knocked in the head and in Northern India the fashion was to throw them over a cliff. In strictly economic communities—in colonies of bees and ants—inability to work means death without reprieve. A bee with a broken pinion never soars anywhere again but is ruthlessly put to death.

But it is the glory of a civilized community that it is not strictly economic. The sick are cared for, even the hopeless, and some one is at hand to guard over the last faint, futile flicker of their lamp of life. The weak are strengthened, the aged fostered and the hungry fed.

The care of the sick was first a neighborly act, a charity. The good Samaritan finding by the roadside a wounded traveller took him to an inn, arranged for his food and nursing, and paid his bill. The per capita cost must have been low in those days, for two pence seems to have covered everything.

The organized work of good Samaritans, hostels or hospitals for the sick or unfortunate, grew first within the Christian church or in its shelter. Then fraternal and community organizations of many sorts caught the spirit and took up the work. Hospitals were among the first expressions of a kindly feeling of the fortunate for the unfortunate. Almost all were works of charity.

## Community Responsibility in Illness

In our day the community has recognized a duty toward sick and unfortunate citizens and many hospitals are expressions not of charity or of voluntary effort, but of community thought and responsibility.

One hospital question of today that is insistent is the question as to how much the community should carry of the burden of illnesses of its citizens. The idea is becoming widely spread that practically the whole burden should rest squarely upon the community, that citizenship should have inherent within it something like a sickness and accident insurance.

Certainly a system by which help in time of need must be accepted with humility as a dole of charity will not have many defenders among us. That it is more blessed to give than to receive is true of the giver and still more true, perhaps, of the receiver. At the same time who would say that the care of the sick is wholly or anything like wholly a community function? Who would place the whole burden of illness and its care on the state?

Illness is not always an accident, but often a fault; not always a dispensation of Providence, but often a proof of improvidence. Illness sometimes is a crime and deserves punishment as much as stealing does. It is perhaps as often a matter of shiftlessness and neglect as poverty is. If we were to care for all who are ill without charge and without question we might as well relieve and indeed subsidize all bankrupts and all poor without question.

The whole burden of illness cannot be lifted indiscriminately from the shoulders of the individual. The whole burden cannot be thrown upon the already heavily burdened community. Our grandfathers had a fashion of saving up for a "rainy day." When illness came they had to see their families and themselves through it. It would seem as though their habit of saving and their sense of responsibility were less general today. We have people coming to us every day who have spent lavishly, and hope to spend again, the butterflies not the bees of the community, who, at the very approach of illness refuse responsibility, put it up to the community and demand the maximum of care as a right of citizenship.

Needless to say the community, if it remains true to its ideals, must stand behind any individual in the emergency of illness, must see that life is not lost, or suffering endured, or infection spread.

## Patient Must Bear His Share

But is it not time that the haze of sentimentality should be blown a little aside and matters of illness, accident, disability and defect looked at more closely so that burdens may be adjusted fairly?

The sick man has been considered as beyond all criticism, reproach or even inquiry, immune as long as he is ill, or thinks he is ill, or even says he is ill, from the burdens of community. There is no doubt that many bur-

*Presidential address before the Manitoba Hospital Association, November, 1922.

dens of illness are thrown upon the community which should be borne by the individual, and that the boundary line between inability to work and unwillingness to work is often hard to determine.

The men 100 per cent ill must of course be excused, but it is partly ill men that make the world go around. If all men less than 100 per cent well and 100 per cent fit were to stop work tomorrow the industries of this city would be demoralized.

Dr. Charles White tells of three men chosen for an important bit of work, who when they met compared notes as to health. One, it was found, was keeping under control advanced tuberculosis and cancer; another was badly disfigured by x-ray burns; a third had advanced tuberculosis under control, and disabilities from a railway accident. Yet these three handicapped men came blithely to their day's work and were indeed among the leaders, the most effective workers, in their community.

The time has not yet come and likely will never come when all burdens of illness should be assumed by the community. Yet must the sick be cared for.

All the various and dissimilar hospitals represented in this convention and alike in this: that their work is the care of the sick. In this also are they alike *that the care they give must be the very best.* Nothing but the best is good enough.

No sciences in our day have broadened and deepened like the sciences that relate to disease, its diagnosis and treatment. The last century's advance eclipses all that went before. Today's care of the sick has little in common with that of a century ago except its spirit. Not a day passes without marking progress. Not all that is new is essential or even desirable, but after the chaff is winnowed out the good grain of medical, surgical and hospital progress is without parallel among the sciences. He who would follow even the general trend must give his days and nights to study.

No one man can now be an all-round specialist. And the small hospital of a dozen beds must lack many facilities for diagnosis and treatment, much apparatus that larger and wealthier hospitals possess. Some disease conditions can be investigated and cared for as well in a twelve bed country hospital as in a five hundred bed city hospital, and some emergencies and conditions of illness are met better by the near, small hospital than by the distant large one. At the same time there are disease conditions and emergencies which cannot have anything like the best that modern medicine has to give in investigation and treatment in the small home hospital but must have the fuller facilities of the larger and better equipped distant hospital.

## Hospitals Have Different Functions

The essential fundamental principle is that nothing is too good for the sick man perhaps still more the sick woman, and most of all the sick child. Whether in near or far, small or larger, at home or away from home, they must be given the best chance of recovery. There is no hint of inferiority or of falling down when a patient is sent from a smaller to a large hospital. One has one function to perform, the other, another. One is supreme in one sphere, the other supreme in another. The large central hospital could perhaps send as many patients back to their home hospitals for treatment as the home hospitals send to the larger.

The important point is that within the scope of its work there should be, there must be, for hospitals large and small, general and specialized, public or private, one standard only, and that the best. Every organization that functions as a hospital should conform to that one standard. Nothing but the best and foremost application of medical methods and nursing methods should be tolerated in any hospital of any size whatsoever. The difference should not be in quality of work but in range and variety of work. Everything that is needed for the work undertaken should be provided. No patient should lack a shadow of a chance through lack of essential equipment or essential knowledge. Limitations are not only desirable but absolutely necessary, but within the range it sets for itself work should be of an absolute standard.

The smaller local hospitals have a most important function to serve today and perhaps a much more important function tomorrow. They can immensely improve facilities for medical, surgical, obstetrical and nursing work in the small community. Country doctors need local hospitals and can't do their work rightly without them.

President Pritchett in the latest report of the Carnegie Foundation says that a moderate-sized town with its surrounding area should be able to support a community hospital with laboratory, clinics, nurses, and consultation and diagnostic facilities as well as it supports a community high school; and that even the small village can make a modest beginning with a little hospital which will greatly economize the time of the one or two local doctors.

## Waste in Over-Elaborate Buildings

While the principle is that the best is none too good, it is necessary to say, and say emphatically, that this applies to essentials. In the past quarter century some hospitals have vied with each other in marble halls and over-elaboration of equipment, each announcing that it had the "last word" in all things. Hospitals are sometimes considered monuments. There is no reason why a hospital should be monumental or over-elaborate, or unduly ornamental any more than a business house or a factory should be. It should be fitted to do its work efficiently and economically as a factory is.

Over-elaboration costs too much in capital expenditure and in upkeep as well. Over-elaboration is one of the elements in increased costs of treatment so that illness has become an impossible luxury for people of moderate means. It is time for a backward swing of the pendulum, time that we asked not how we can possibly spend more, but how we can possibly spend less and still be efficient, still have the essentials. Not until all the many and varied needs of the community can be equally satisfied can over-elaborate, over-expensive hospitals built by either public or private money be justified.

A small community is usually ill advised in loading itself up with a Grecian pillar hospital, the last word in construction, and is often better advised to adapt an existing building for hospital purposes at a tenth of the cost and in a tenth of the time.

Dr. Smith of Northern India, whose skill in the cure of cataract is well known, found that he had to apply a very limited amount of money to the care of a large community. He began with an ordinary standard hospital but found that it could admit and care for in the usual standard way not more than a tenth or a twentieth of the sick. He began to discard non-essentials and finally the small hospital became not much more than a treatment center around which sick people gathered in great numbers with scarcely more than a mattress to lie upon. His results were as good as before and his volume of work much greater.

Just how far we could rightly follow along the same line I am not prepared to say, but economy and a getting down to essentials in hospitals, as elsewhere, are needs

of the times. However good the work a hospital may do it cannot excuse waste.

Over-elaborateness has even been known to hinder rather than help. David refused Saul's most complete armor and brought down the giant with his simple and familiar sling and stone.

### Small Hospitals Can Help in Teaching

All hospitals, the large and the small, the general and the special alike, have this also in common, *that they should teach.* They should be centers of instruction for doctors, nurses, and for the general public.

The hospital first became aware of its duty to educate the doctor. A sailor's education is essentially the sea, and a doctor's the hospital. The larger and more central hospitals have so far borne the burden, which is not a grievous burden, of the students of medicine, and they have reaped the advantages, relatively great, which always accrue to teaching hospitals. We learn best by teaching. The time perhaps has come when smaller hospitals could help in the teaching of young medical men. Complaint is being made that the doctor, who is to be a general practitioner, is being trained by specialists rather than by general practitioners, and in large elaborate hospitals rather than under the conditions in which his work must be done. Visits of medical students to the smaller and even the smallest hospitals, if they could be managed, say between terms, would bring the stimulus that the necessity of teaching gives to the hospitals, and give to the students something of what the student of a half century ago had, and that our students lack, in actual apprenticeship served with a busy general practitioner.

When a hospital is spoken of as a school, however, nine times in ten or ninety-nine times in a hundred it means a school for the training of nurses.

### Standards for Nurses

It may as well be openly confessed, for it is true, that the extra enthusiasm of hospital boards for the education of nurses, had almost always something to do with the services rendered by the nurses in training to the hospital. At the best there was a definite tendency, as there was with the farmers to whom boys from the old country used to come to learn farming, as there usually is under the apprenticeship system, to make the work the big thing, and the teaching incidental. At best the education was pretty hardly earned; at the worst cruel and unjust exploitation.

The consciences of hospital boards are perhaps more tender than in the days gone by, or better informed, or more under the sway of economic conditions. Anyway more is said out loud nowadays of the education of the nurse and less of her training; more of classrooms and less of learning to do by doing; a little more of what a nurse may get out of it and a little less of what she must give. Hours of work, housing, food, educational facilities, actual teaching, all are better than they were. But the idea of apprenticeship to a trade rather than instruction in a liberal profession dies hard.

Medical interns are of great service to hospitals, but should every hospital that wishes to have the advantage of interns be entitled to set up a medical school on its own pattern, with its own standards, within its own walls to supply them? The teaching of nurses is so important that it should be undertaken only when and where the teaching can be made the matter of importance and the services given incidental. It should not be undertaken and should not be allowed to be undertaken where the labor of the pupil nurse is the matter of importance and the teaching incidental.

No distinction whatever is being drawn between large and small hospitals. Some small hospitals have been very honorable and some large hospitals dishonorable in their relations with their nurses. The call to teach nurses may come to the small hospitals as to the large. There are some things which a small hospital can teach its nurse which a large hospital cannot; and some experience a large hospital can give that a small one cannot. Even in a very small hospital, with facilities, enthusiasm, ability and time for instruction a nurse may spend at any rate a part of her training very profitably.

But the planning, building, the running and the financing of a hospital are matters of administration, while the training of nurses is a matter of education. Groups of good citizens in towns and cities may be well enough informed to be administrators who are not well enough informed to be educators. The two points of view are entirely different; worse than that they are sometimes exactly opposite.

Why should lay boards be considered competent to found schools for nurses, set standards and determine policies? Why should a lawyer, a merchant, a couple of farmers and a real estate agent determine the extent and scope of nursing training in one town; a clergyman, a blacksmith, a banker and a hotel keeper prescribe educational standards for nurses in another town; and a group of business men, very wise, perhaps, in business, lay down the law as to the scope and bent of nursing schools in almost every city.

Medical education is controlled by the university. The education of lawyers is in the hands of the law school which is affiliated with, or a part of, the university. Druggists follow a course and write on examinations prescribed by the university; architects follow a course prescribed by the university and are graduated by the university. Teachers in the higher grades write on university examinations; in the lower grades on examinations set by a central department of education. Jonesville, Brownsville and Johnsonville have their individual public and high schools and their trustees who build and equip and maintain the schools, but the standards adhered to, the studies prescribed, the efficiency of instruction are not prescribed by anybody in Jonesville, Brownsville or Johnsonville but by one central body, under or associated with the university, for the whole province.

Is the work of a nurse a trade to be learned by an apprenticeship or does it belong to the realm of real education? If nursing is a profession why should nursing education alone of all professional education, be outside of university control? The day is coming, indeed should be here already, when nursing standards of education for this province shall be prescribed by the university, and the whole program followed in nursing education be according to standards prescribed by the university. Nursing education should be just as much and just as little a matter for the control of the trustees of a hospital as teaching education is a matter for the control of the trustees of a city or town high school.

To the education of nurses every hospital in the province could usefully contribute. The large and the small, the general and the special, all could add important elements. The ideal training would incorporate several elements rather than one only. Sound and adequate fundamental teaching, training in general nursing with a look in at both a large and a small hospital, and an added experience in at least one kind of special nursing, say of children, of mental diseases, or of tuberculosis, should be better than a narrow course however intensive, confined to one hospital. Affiliation, arrangements between schools

which differ from one another, so that their nurses may broaden their training and add to their experience, has done and is doing much. Affiliation could be more widely applied and should be. But these many mutual arrangements will soon become complicated. They are already complicated by differing standards in different hospitals.

Again we are back to the question of standards. If standards for the nursing profession were set by the university as for the other professions, would not our affiliation, our coordination, our cooperation all be helped? Would not nursing education be bettered? Would not each separate hospital interest be helped? Would any single hospital be injured? And would not order be brought out of chaos?

Besides the education of the student and of the nurse, the hospital, especially the small hospital, has another great work it may do in the education, in matters of disease and health, of the people in general. And the education of the people in general is the beginning, the middle and the end of all campaigns for the prevention of disease.

Yesterday we thought only of cure; today we still are chiefly concerned with cure; tomorrow the great thought will be prevention.

In the *cure* of disease the trained physician and the trained nurse may act almost alone. But in the *prevention* of disease they must have beside them the trained good citizen, the trained teacher, the trained father and mother, the trained children, the trained and educated community. People will *do* right only when they *know* right. And how can they learn without a teacher? And who is to teach if not the doctor and the nurse?

The hospital has always been a center for the teaching of the people, incidentally and unconsciously. Could it not be a center of teaching intentionally and systematically?

The various hospitals which join in this association show indeed at first sight more unlikenesses than likenesses. But we all have these things in common, that our big work is the care of the sick; that whatever we set ourselves to do should have one standard only, and that the best; and that one of our chief functions is that of education.

## PROPORTION OF SALARIES AND WAGES TO TOTAL BUDGET

Not many years ago hospital budgets could be divided into three parts, roughly equal: (1) salaries and wages; (2) provisions; (3) other supplies and expenses.

Dr. Herman Smith, superintendent of Michael Reese Hospital, Chicago, recently called the attention of the trustees of the American Hospital Association to the increase in the proportion required for salaries and wages to approximately half the budget of his institution. To check this figure several hospitals were asked to divide their total expenditures for 1922 in this way. The replies follow after the statement of the figures for Michael Reese Hospital.

MICHAEL REESE HOSPITAL, CHICAGO, ILL., 452 BEDS

| | | |
|---|---|---|
| Salaries and wages | $320,500.00 | 48% |
| Provisions | 136,000.00 | 24% |
| Other supplies and expenses | 188,000.00 | 28% |
| Total | $644,500.00 | |

MOUNT SINAI HOSPITAL, CLEVELAND, OHIO, 255 BEDS

| | | |
|---|---|---|
| Salaries and wages | $214,744.00 | 55% |
| Provisions | 76,072.00 | 19% |
| Other supplies and expenses | 107,312.00 | 26% |
| Total | $398,128.00 | |

OHIO VALLEY GENERAL HOSPITAL, WHEELING, W. VA., 155 BEDS

| | | |
|---|---|---|
| Salaries and wages | $123,939.56 | 48% |
| Provisions | 59,274.54 | 23% |
| Other supplies and expenses | 70,495.85 | 29% |
| Total | $253,709.95 | |

MASSACHUSETTS GENL. HOSPITAL, BOSTON, MASS., 446 BEDS (GENERAL HOSPITAL AND OUT-PATIENT DEPARTMENT)

| | | |
|---|---|---|
| Salaries and wages | $353,455.00 | 47% |
| Provisions | 135,160.00 | 18% |
| Other supplies and expenses | 266,934.00 | 35% |
| Total | $755,549.00 | |

PHILLIPS HOUSE

| | | |
|---|---|---|
| Salaries and wages | $141,695.00 | 51% |
| Provisions | 77,377.00 | 28% |
| Other supplies and expenses | 59,678.00 | 21% |
| Total | $278,750.00 | |

NOTE: Special nurses are not included in either group.

BRIDGEPORT HOSPITAL, BRIDGEPORT, CONN., 250 BEDS

| | | |
|---|---|---|
| Salaries and wages | $113,938.00 | 50% |
| Provisions | 65,483.00 | 28½% |
| Other supplies and expenses | 49,026.00 | 21½% |
| Total | $228,447.00 | |

CINCINNATI GENERAL HOSPITAL, CINCINNATI, O., 850 BEDS

| | | |
|---|---|---|
| Salaries and wages | $312,993.38 | 60% |
| Provisions | 105,000.00 | 19% |
| Other supplies and expenses | 109,104.00 | 21% |
| Total | $527,097.38 | |

NOTE: "These statistics should be looked upon in the light of the financial stringency in Cincinnati. More money would have been spent for provisions and supplies other than provisions during the past several years had it been available."

BAYLOR HOSPITAL, DALLAS, TEXAS, 250 BEDS

| | |
|---|---|
| Salaries and wages | 47.5% |
| Provisions | 31.6% |
| Other supplies and expenses | 20.9% |

PRESBYTERIAN HOSPITAL, CHICAGO, ILL., 431 BEDS

| | |
|---|---|
| Salaries and wages | 45% |
| Provisions | 25% |
| Supplies and other expenses | 29% |

The above figures indicate that the change in the proportion of salaries and wages to the total budget has been rather uniform in all institutions.

## A NEW KIND OF HOSPITAL

Every hospital is not a place for the care and treatment of human sick and injured. A glance at almost any telephone directory will show many varieties of hospitals —shoe, doll, dog and cat, etc. It has been left to one Hy Jacobs of Syracuse, N. Y., however, to open a large pipe hospital. Hy's Pipe Hospital has been in operation for ten years and in addition to a repair department, conducts a service department where smokers may receive expert advice on the selection and care of a pipe.

# WHENCE RECRUITS FOR HOSPITAL PHARMACIES?

By EDGAR C. AUSTIN, Pharmacist, Cincinnati General Hospital, Cincinnati, Ohio.

WHERE shall we get recruits for the hospital pharmacies? The demand for the right type of hospital pharmacist exceeds the supply, and this demand will steadily increase, for new hospitals will be built and existing ones will be enlarged.

There are now about 7,000 hospitals in this country, and plans for many new ones and for extensions are on the trestleboards of architects, only awaiting the near-at-hand favorable change in business and building conditions. Our hospitals are receiving the approval and support of all classes and professions, and as time goes by all will regard it as preferable to take an increasingly greater number of cases to the hospitals instead of treating them at home; hence, it is obvious that the number of hospitals will multiply and the facilities of present ones will be increased.

To meet this situation, we must have an increased supply of hospital pharmacists. We must establish some source of supply, for, as any hospital executive will testify, good institutional pharmacists are hard to get and the demand for qualified men is not being met.

In the matter of professional ability, the demand on the hospital pharmacist has increased. He must be much more than a mere filler of prescriptions. Even though the commercial pharmacist may be capable in the drug store, he is not always qualified for the hospital pharmacy, for that field is much broader. Pharmacy exists in the hospitals as one department of a scientific organization which is known as the professional staff. By no stretch of imagination can it be regarded as the independent organization that many think to exist in the retail drug stores.

## Special Training Needed

The bacteriologist, physiologist, clinician, pathologist, pharmacologist and others work together, interdependently, and the pharmacist should be qualified to work with them in their dual task of treating the sick and advancing science. In the process of determining what qualifications he should possess, four outstanding facts should be held in mind:

1. The hospital pharmacist works with scientific men who are highly educated and progressive; usually men who are leaders in their respective fields.

2. It is desirable that he cooperate with these men, and in order to do this he must be reasonably familiar with their respective fields of work.

3. His professional co-workers will not accept as a colleague a pharmacist who is not their intellectual equal and who is not as well educated in his specialty as they are in theirs.

4. Only a man who is accustomed to hard study and who has a mind that has been trained to observe and think will be able to help to solve the problems of curative medicine.

At the present time our hospital pharmacists are drawn chiefly from stores, the mere fact that they are registered being sufficient to get them the position. Very little attention is paid to the special qualifications that are needed in the hospital, because hospital superintendents know from previous experience that it is useless to look for specially qualified men.

If such a man is employed it takes a year, or even eighteen months, to train him to do hospital work, and even then he will not be an expert, except in rare cases. A system such as this produces fairly efficient hospital pharmacists in time, it is true, but this is by no means an ideal state of affairs, for in the meantime the hospital and its patients suffer, and so do the reputations of hospital pharmacists in general.

For reasons difficult, probably impossible to enumerate, there exists in the minds of the medical men a well-defined lack of confidence in the pharmacists, taking them as a class, and this reduces the service which might otherwise be rendered to the physicians. It is safe to say, however, that the common disinclination of pharmacists to give enough of themselves to their profession has played its full part in bringing about this state of affairs.

As the chief point of contact of the science of pharmacy with the science of medicine is in the hospitals, by which is meant the creative point, it would seem that through this channel, professional pharmacy, through the aid of the hospital pharmacists, should take advantage

Section of pharmacy of Cincinnati General Hospital. In the background is shown the prescription desk of Mr. Austin.

Corner of the storeroom of Cincinnati General Hospital. In this department are rows of shelves containing an enormous stock of drugs.

of this field to better its standing, both with the physicians and the public. Surely, through his association with the teachers of medicine, the medical staff, interns and medical students, the expert hospital pharmacist is in a position to enhance greatly the reputation of all pharmacy.

On account of the fact that there is no real source from which hospitals may secure pharmacists specially trained for their work, the drug departments of many institutions have become merely places where prescriptions and other extemporaneous preparations are put up. In many such hospitals the pharmacist is not regarded as a member of the professional staff. The situation is made still more deplorable by the fact that such hospitals finally accept as a matter of course poor service, or at best limited service from the pharmacist, losing all conception of what a really proficient hospital pharmacist should know and do. It is hardly necessary to point out that both the hospital and the profession of pharmacy lose much when this condition prevails.

View of the stock shelves in Cincinnati General Hospital. There are several other sections similar to this.

In spite of a hospital superintendent's desire to secure a capable pharmacist, he may err in his choice. There are no standards for him to go by, and he has no way of telling what qualifications a man should have for this line of work. Because of the lack of qualified men and accepted standards it would seem to be the duty of the profession for its own future welfare as well as that of the hospitals to make provision for the training of hospital pharmacists. And when these men have been specially trained, the hospitals should recruit their pharmacists from these ranks.

### Course of Training

Only after careful and judicious inquiry should specific educational requirement for hospital pharmacists be made. In a tentative way, however, it may be said that they should at the minimum be required to complete a four-year college course that leads to the degree of bachelor of science in pharmacy.

In the interest of hospital pharmacy, the course should be so arranged as to include careful instruction in those cultural subjects which produce breadth of view and refinement. It should include those which are basic or fundamental to the science of medicine and that of pharmacy, as well as those that are of pharmaco-medical character, such as biochemistry, bacteriology, serology and immunology, alimentation and physiology, pharmacology and practical therapeutics.

It is desirable that the students acquire part of their practical experience in the pharmacy of some large teaching hospital. The course would be a combined academic and professional one, and probably it could be completed in five college years of eight months each. If practical work were done in the hospital during the summer months, the course might be reduced to four calendar years. However, it seems that it would be advisable to limit the credit for this practical experience to the amount that would be justified in each case.

Some may deem this an excessive amount of training. The attention of such persons is directed to the fact that the educational requirements outlined are not more than equal to two-thirds of the educational requirements of the men with whom the hospital pharmacist must work and cooperate. As a matter of fact, these requirements are but little more than equal to those of university schools.

The writer does not wish to be understood as finding fault with men who have gone through recognized colleges of pharmacy. They have been taught all that is necessary in commercial and manufacturing lines, and that was the object of the school. Necessarily, however, they will have but vague ideas of a number of subjects in which a hospital pharmacist must be proficient.

When the ordinary pharmacist commences his duties in a hospital pharmacy, he finds new people and new work. Even his status is changed. Previously, he has practiced pharmacy as somewhat an independent, isolated profession, but in the hospital he finds that it is only one of a number of closely associated professions. Pharmacy, the new man finds, is one of several branches of a scientific organization, the object of which is to combat disease. The pharmacist is a specialist in this organization, and he must work with other specialists, the pathologist, the pharmacologist, the therapeutist and others. Each of these is more skilled than the others in his own specialty, but all, including the pharmacist, are working to one definite end, each contributing his share.

The present system of training recruits for hospital pharmacies has had a long, thorough trial, and it has proved to be unsatisfactory. It does not furnish pharmacists who meet the expectations of the staff. It is altogether too slow, and with the long time it takes the instruction is inadequate and uncertain.

Under the present system the hospital pharmacist is slowly but surely dropping behind the men in the other hospital professions. It may be that he is advancing some, but as the others are advancing more rapidly than he, the space is widening. This, if nothing else, shows that there is needed both a system of training and a place where this training may be had.

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## PACKING SPECIFICATIONS FOR CANNED GOODS

At the 1923 annual meeting of the American Hospital Association in Milwaukee in late October, a demonstration of the use of packing specifications for canned goods will be given, it is announced. A special committee has been authorized by the board of trustees of the American Hospital Association to work out a practical demonstration of the specifications. Packing specifications are definite and only clear fraud can prevent the hospital from getting the exact grades ordered when these specifications are used. By making use of these specifications instead of brands, the hospital buyer can compare prices.

Guy J. Clark, purchasing agent of the Cleveland Hospital Council, and Henry J. Southmayd, assistant director of Mount Sinai Hospital, Cleveland, compose the committee.

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Every brave warrior may experience moments of threatened disaster; the world's greatest speakers have their talents desert them on the platform, likewise the most able worker may get out of harmony with himself at times and fall below his standard of efficiency, but the fact that you recognize the condition when you meet it face to face and the very fact that you have slipped from a higher plane of efficiency is the best evidence that you can overcome all obstacles that lie in your path.

# SOCIAL SERVICE PROBLEMS IN THE HOSPITAL*

By ALICE H. WALKER, Director, Social Service Department, Harper Hospital, Detroit.

THE problems of the social worker are determined largely by the nature of the institution in which she works. Obviously the problems of the worker in a state hospital for mental cases will differ from those of the worker in an orthopedic or a maternity hospital. But sooner or later the worker in a general hospital will be called upon to deal with all the types of problems found in the special hospitals, plus many more.

Whatever the type of institution may be the social worker must adapt her work to the particular needs presented. This will require careful study of the field and a broad understanding of the community relationships of the institution.

Hospital social service is based primarily on the medical needs of the patient and the well-trained social worker, however diverse the demands on her may be, will face steadily that goal of service to the physician in helping to restore the patient as rapidly as possible to his place in the community.

## Must Choose Her Material

One of the problems which every social worker faces is the question of how to handle the volume of work that confronts her, how to limit the intake in order that she may not be so pressed for time that she cannot do real constructive work for her patients. Since there are never enough workers to serve all the patients, the choice of cases must, of necessity, be determined by the character of the social needs presented. She must decide where the most effective reconstructive work may be done.

Two strategic points of contact are made with the community on the admission and discharge of patients. Both should pass through the hands of the social worker. If there is an out-patient department, this matter is greatly simplified, for the social workers of that department will have already made the first contact with many patients and are ready to carry on the social service when they are discharged from the hospital.

The social worker, as well as the physicians and nurses, have the opportunity to show a kindly, sympathetic, human interest when the patient is admitted which goes far toward winning his confidence and making him feel that he is a guest of the hospital. If he has difficulties or worries that hamper his recovery she may be able to assist in removing them.

It is particularly important that the ward worker should be notified of the pending discharge of a patient in ample time to perfect her plan of treatment. Frequently, she is given such short notice that it is impossible to make a satisfactory plan. The patient will have been in the hospital for weeks probably, when suddenly there is a call for more beds and all patients who can be discharged must go. The physician casually notifies the social worker that "Mrs. Jones is ready to go out this afternoon but she tells me that she has no place to go. Will you look after her?" Obviously, this is not fair to the patient, nor to the social worker. It does not allow for any well considered scheme for permanent placement.

## Adjustment of Patients to Community

In medical science the real test of the benefit which a patient may have derived from hospitalization is proved by the end results. Scientific knowledge and rare skill may have been employed in making an accurate diagnosis but that of itself will be of little value unless followed by equally skillful treatment. So it is in social work. The social expert brings her specialized knowledge to bear upon the personal problems of a patient. She alleviates his immediate anxiety by attending to his outstanding social needs. But the real test of her skill is shown by the plan which she is able to carry through for the adjustment of the patient to the community. In this she must collaborate with the physician in order that the medical plan may correlate with the circumstances of the patient's life.

It is easy enough in theory to work out a fine scheme for the patient's welfare but it is another thing to put it in practice. However, the cooperation of the patient may be obtained, ordinarily, by taking him into confidence. The doctor or social worker should explain to him the nature of his malady, the probable duration of the illness, and the general plan of treatment. He should be convinced of the important part which he must play in supplementing the efforts of the physician, if he desires to get well. His mode of living must be such that it will allow for the success of the plan of treatment. Analyzing with the patient, point by point, all the factors of his case will bring into clear perspective the difficulties as well as the advantages and will go far toward helping the patient to a solution of his own problems.

The hospital social service department is not a relief-giving agency, therefore, if the family budget will not provide the special diet for the invalid or if it is insufficient to carry the family until the father is strong enough to return to his job, assistance must be sought from some outside source. It is often very difficult to convince a relief-giving agency that while $6 or $8 weekly will keep a family living, it is not adequate to provide for proper convalescence. Among the most trying situations the social worker will meet is the difficulty encountered in persuading the lay workers of some outside agencies to consider a patient or a family from the medical viewpoint.

## Great Field in Mental Cases

Possibly in no field is social service more necessary than in dealing with mental cases. In the average general hospital the patient suffering from a latent mental disorder does not receive treatment commensurate with his needs. The physician who has not had special training in neurology or psychiatry is slow, as a rule, to perceive obscure psychopathic symptoms, or recognizing them, he feels incompetent to treat them. As a result, many patients who are verging on mental disorder go out into the community without any help being given. The day is not far distant when the hospital that permits this neglect will be considered guilty of criminal negligence in failing to recognize its obligations and responsibilities, not alone to the patients and their relatives but to community organizations and to the general public.

This group of patients forms a grave problem for the social worker particularly when the mental disorder whether potential or apparent is closely associated with some form of social misconduct.

The problem of supplying a housekeeper in the home where there are young children and the mother is a temporary or a permanent invalid is very difficult to solve.

*Excerpt of a paper read before the sixth meeting of the Michigan Hospital Association at Detroit, December 6-7, 1922.

This is particularly true in the home of the inoperable carcinoma, the incurable heart or other chronic case and until some hospital provision other than the county infirmary can be offered for chronic patients who have always lived independently and respectably in their own homes, the solution of the difficulty will not be easy.

### Rehabilitating the Patient

It is always a question how far the hospital social worker should carry her casework when the problem is no longer medical. Where there is a well organized family relief agency in the community her work is greatly simplified.

When planning to fit the patient back into his niche in society, the exact degree of handicap, whether physical, mental or moral, must be reckoned with. All unnecessary strains must be eliminated and when necessary, the reeducation of the patient must be undertaken in order that he may make a satisfactory readjustment; otherwise much of the good work accomplished in the hospital will be futile and the patient will not be able to function at the highest plane of his economic efficiency.

There are undoubtedly many hundred people in the county poor houses today who could have been saved from the human scrap heap and who would now be earning their own livelihood if some person had but extended a helping hand at the strategic moment to assist them to readjust themselves to changed circumstances. In many instances it would have meant retraining and temporary assistance with good moral bolstering and a prodding of pride and ambition.

Fortunately we are awakening to the great economic waste to say nothing of the injustice of which we have been guilty when we have ruthlessly pushed aside men and women, many of them below the prime of life and have condemned them to years of inactivity or perhaps beggary. Every person who is industrially restored and readjusted or even partially restored proves an asset to the community instead of a liability when he becomes a contributor to the commonwealth of society.

The problems of all social workers in Michigan have been lessened many fold since the state vocational rehabilitation division was organized. The combined wisdom of the physician, the psychologist, the expert vocational adviser and the social worker usually succeeds in fitting the handicapped person into the new place in society that he is best adapted to fill. Not infrequently he is much better adjusted than he was before his accident.

### Vital Point of Contact in Dispensary

At the twenty-third annual meeting of the American Hospital Association held in West Baden two years ago, Dr. Louis Baldwin stated in his presidential address that the time had come when the value of the hospital was to be measured in terms of social service. There is no more effective channel through which this service may be rendered than by means of a well organized out-patient department. It is through this medium that the hospital makes its most vital contact with the community. It reaches a greater number of people than ever enter the hospital proper. Only about 20 per cent of the dispensary patients enter the hospital, the remaining 80 per cent receiving their treatment in the clinics.

By the very nature of its work the out-patient department becomes an important community health center and through its social service department it plays a considerable part in all community programs for the rehabilitation of individuals and families. Its place in the field of preventive medicine and public health education is very significant.

The social workers in the dispensary occupy perhaps the most strategic position in the whole social service department. The dispensary has been styled the front door of the hospital. For a large number of patients it proves the door of exit as well.

For the majority of patients the clinic visit is their first contact with a hospital and the kindly attitude and interest of the social workers help to dispel much of the timidity and apprehension of the applicants and to assure the patient that his individual needs will receive special attention.

The problems found in the out-patient department differ somewhat from those of the hospital but the social work of both hospital and dispensary should be correlated under one head even as the medical work of both departments should be correlated.

One of the outstanding problems in the dispensary service is the migratory habits of the average dispensary patient. He is rather an uncertain person to reckon with, being liable to shift his place of treatment. No perfunctory system of follow-up by postal card will overcome this failing. In a large city the difficulty is increased by the great number of transients. It is discouraging to look over the monthly attendance and find that 500 or 600 patients made only one visit during the month.

This irregularity of attendance is largely reduced in the clinic where a social worker is stationed. When the patient is taken into partnership and made to understand what an important part he must play in his own treatment, he is much more liable to give intelligent cooperation. The friendly, individual interest shown by doctors, nurses and social workers is invaluable.

In the dispensary even more than in the hospital many administrative and clerical functions are likely to be required of the social service department and it is quite easy to understand why this should be. Much of the public health education, the organization of special health classes, food clinics, work in physiotherapy are usually introduced into the dispensary through the initiative of some physician seconded by the efforts of the social service department. Their organization and supervision devolves upon the workers of the department. The social service dietitian conducts classes for diabetics, for nephritics, for undernourished children and others needing special instruction and direction.

Sometimes, indeed, it depends upon the social service department to find means to finance these projects. But in the out-patient department as in the hospital while the combination of administrative and social duties is reasonable, it is necessary for the social worker to see that she has assistants enough so that the purpose for which her department was created will not be neglected.

### Factors in Future Development

The future development and standardization of hospital social service depends largely upon four main factors:

1. Greater unanimity of opinion regarding the real purpose of the work.
2. Better qualified and better trained workers, thoroughly grounded in the principles and practices of social case work and with vision of the possibilities of the constructive value of their work.
3. Broader education of the medical student in the social service aspects of medicine.
4. The hearty support of the social agencies of the community in carrying out the program for the physical and social rehabilitation of patients.

# DEVELOPING SATISFACTORY INTERN SERVICE*

By C. W. MUNGER, M.D., Superintendent, Blodgett Memorial Hospital, Grand Rapids, Mich.

SOME of the questions which logically apply to the subject of developing satisfactory intern service are: Why does the intern exist? For whose advantage does he exist? Could we get along without him?

It is common for hospitals to feel that the gain is all on the side of the intern, and, on the other hand, many of our interns are likely to believe that they give much more than they receive.

The intern and the problem of training him exists first of all because he, himself, is an unfinished product. To be sure he has had a grammar school education; has been graduated from high school; has spent from two to four years in a college or university; or may possibly have acquired a master's degree or Ph.D. Following these preliminaries he takes the four-year medical course. Had any man been able to obtain such a training 100 years ago, or even fifty years ago, he would no doubt have stood out as one in many thousand, but as we all know, the modern development of medicine has necessitated this longer period of scholastic effort. The men who come to our hospitals as interns have had the *classwork* in their subject but require laboratory experience. The properly organized hospital provides these laboratory facilities better than any other agency.

## Course Must Be Truly Educational

Hospitals attempting to render efficient medical service without resident doctors are greatly handicapped. In the proper type of hospital the intern can fill this need for the resident doctor and at the same time be effectively trained. We must keep constantly in mind, however, the fact that the intern is in the hospital primarily for training, and only incidentally for the service of the institution. Our nurses' training schools are slowly but steadily abandoning the ancient idea that the pupil nurse is in the institution to do the hospital's work, and incidentally to get what training she may pick up. The same principle applies to the intern. The course must be placed upon a truly educational basis if it is to be worthwhile.

What should an intern do for the hospital in which he accepts an appointment? First of all, in his relation to the patients he should act as joint medical agent of the hospital and of the visiting physician. He should write histories on all patients whether free, part pay or private. He should do physical examinations on all patients with the possible exception of pelvic examinations in certain instances. He should assist in the operating room whenever any patient on his service undergoes a surgical procedure. He should be present at, and assist if necessary, at the autopsies performed in the institution. In addition to recording the history and physical examination, the intern should methodically and accurately keep up the clinical record of the patients throughout the stay in the hospital. He should see every patient two or three times daily and should cooperate with the visiting physicians in the ordering of medicines and other treatments. Many times the routine medication will be left entirely to him. He should be available both day and night to look after emergency calls, and to see that his patients receive every necessary medical attention. He should assist in the out-patient department clinic which pertains to his service. He should act, without undue presumption, as a sentinel for the medical management of the hospital in the detection of poor or inefficient service of any type which its patients may receive.

## Hospital Should Supply Variety of Cases

What, on the other hand, should the hospital do for the intern? First of all, the hospital should supply a sufficient number and variety of cases to give its interns well-rounded training. This matter is not difficult for any hospital of fifty beds or more. If the hospital is deficient in one particular type of case, it is many times worthwhile deliberately to attempt to attract more cases of that nature, as it not only gives the intern better experience but rounds out the service of the hospital to the community and provides better experience to the nurses in the training school.

A hospital may have a wonderful variety of medical and surgical work, and may have well-prepared interns to assist with these patients, and still fall short of giving those interns a satisfactory training. The missing link in such a case is the visiting physician who appreciates the services of an intern, and who is willing to give him bedside instruction. In our smaller communities although they may have had hospitals for many years, the physicians have accustomed themselves to render service without the assistance of house doctors and do not realize of what value these young men may be to them. In one locality several visiting physicians have employed nurses for years to assist them in handling their hospital work, including assistance in operations. Had the hospitals in that locality always given efficient intern service, these physicians might have been spared many thousands of dollars expense.

## Don't Make Intern an Orderly

The dignity of the intern's position in the institution must be maintained by the management. The fact should be borne in mind by everyone that the intern is a medical graduate, and while his authority is no way equal to that of the attending physicians or the higher medical officers of the hospital, he is, nevertheless, deserving of consideration. Some hospitals, particularly small ones, have erred in attempting to make orderlies out of their interns. The morale of any intern service can be destroyed by such a practice. It is important that a very definite line be drawn between the duties of the medical officer and the orderly. Hospital nurses should receive every consideration from the intern but it is likewise just as important that members of the nursing department or other long term employes be not permitted to ignore the rights of the intern.

The hospital must, of course, supply competent department heads, particularly in the laboratory, the x-ray, medical record and the dietary departments. Well trained workers in these positions are absolutely essential for good service to patients and, incidentally, they are able to give valuable instruction to the intern.

Large numbers of charity patients often give added value to an intern service. In the writer's opinion, however, charity patients are not at all essential in training interns, provided the attending staff of the institution in question is willing to devote extra time to the instruction of the men on their service. In case the hospital *is* able to provide unusual experience for interns in charity cases, it should make certain that all such work is supervised. It is, of course, doing a poor patient an injustice to permit

*Paper read before the Michigan Hospital Association meeting, Detroit, December 6-7, 1922.

any major procedures to be performed by interns alone. Moreover, this manner of handling charity patients is decidedly derogatory to the best interests of the intern. If he works alone he is more than likely to teach himself to do things incorrectly. It is likely that any intern is better off to act as first assistant in twenty-five operations done by a competent surgeon who will take time to instruct him than to do fifty operations of the same type without previous experience and without supervision. Interns should be given special opportunities in the out-patient department. The clinics there represent very closely the relation of physician and patient. In the clinic the intern will also learn to deal with patients who must receive treatment in their homes, where the ideal conditions of the hospital are not found.

### Should Encourage Emergency Work

The hospital should encourage all possible emergency work. Such service is of great value to the community and the hospital makes a substantial contribution to the community when it trains medical men to act quickly and accurately in emergency.

It goes without saying that comfortable quarters make any internship more attractive. It is surprising that many hospitals provide much poorer accommodations for their interns than for their pupil nurses. Some institutions may be limited architecturally as to living quarters but it should be possible for all to provide plenty of good nourishing food. An institution indeed takes a cruel advantage if it provides cheap or unpalatable food for any of its staff. In connection with, or near, the interns' quarters, there should be a complete medical library with particular emphasis on current journals covering the various branches of medicine.

As chief of the interns the hospital should provide a resident physician. In larger institutions it may be possible to divide this authority between two or more residents, each to handle a separate department. Hospitals often make the mistake of employing as resident physician any young doctor who is available, provided he has successfully served an internship. The proper supervision of interns in a hospital cannot be performed by every physician, no matter how well trained. It is important to select a man who will be liked and respected by the men serving under him. He must necessarily be broad-minded, and if he has had experience as a teacher in school or college, he is still better prepared.

The hospital should take care not to select a resident who will assign to himself all the valuable cases and who is more interested in obtaining experience for himself than in training interns. The hospital does not owe the same duty to a paid resident physician that it does to an intern. The resident physician is in a measure, a trained individual, and is not in the hospital for what he, himself, can learn but for the benefit of hospital and intern. Residency in a good hospital is an excellent introduction to practice in that locality, however.

The resident or, in a small hospital, the member of the staff who assumes this duty should arrange a series of ward walks once or twice each week, at which different members of the attending staff take up particular diseases with the interns, exhibit such cases as may be in the institution and discuss the condition from all angles. Certain phases of laboratory work, of x-ray work, and of medical administration can be taken up in this manner with the interns by the director of the laboratory, the roentgenologist, and the medical superintendent respectively. A well-trained dietitian can help greatly in discussions of nutrition and diet.

Another adjunct which seems to work well is a journal club composed of the members of the house staff and of any other medical employes of the hospital who wish to participate. An hour or more is devoted to this purpose each week. The group listens to abstracts of interesting material from current journals which have been prepared by the house officers. The men are thus enabled to keep closely in touch with current medical literature.

### Autopsies Important in Training

In the instruction of interns, as well as physicians in general, it is important to maintain a high percentage of autopsies. We have had one or two excellent articles in hospital journals in past months on this subject. My experience confirms the point of view of these writers, who state that the percentage of autopsies may be doubled or trebled at will if sufficient interest is taken in the matter by the superintendent and house doctors. It does not require more than a discussion of the matter with the intern to arouse his interest, and if the resident physician is interested and will supply himself with suitable arguments in favor of postmortems, the family usually can be won over. The custom of granting some special recognition to the intern who, during his service, obtains the largest percentage of autopsies, usually bears fruit. Special attention given to this matter in the writer's own hospital in the past four months has been productive. For the first seven months of 1922 the autopsy percentage was 25.7. For the period between August 1 and December 1, the percentage was 53 per cent, more than double the number.

The interns should be permitted, and expected, to attend the clinical meetings of the hospital staff. It is also well to let the intern present the histories of cases on his service when they are reported in staff meetings. In case a man has devoted an unusual amount of time and interest to a particular case, it seems perfectly proper that he should be permitted to present such case to the staff. This type of experience serves as a part of his training, and will be of value to him later on when he wishes to participate in discussions at medical societies or other meetings.

Another point often disputed concerns the privileges which the hospital should grant the intern with regard to association with the nurses in training. We should consider every intern a gentleman as well as a scholar, until he has definitely proved himself otherwise. The writer is opposed to the custom which exists in many institutions of maintaining blue laws regarding social relations between interns and nurses in training. If an intern cannot be trusted to conduct himself as a gentleman in relation to nurses, is he then the proper person to put into intimate relation with our patients? Experience has taught that ironclad regulations on this subject have sometimes caused more difficulty than they have prevented.

### Interns Should Not Be Paid

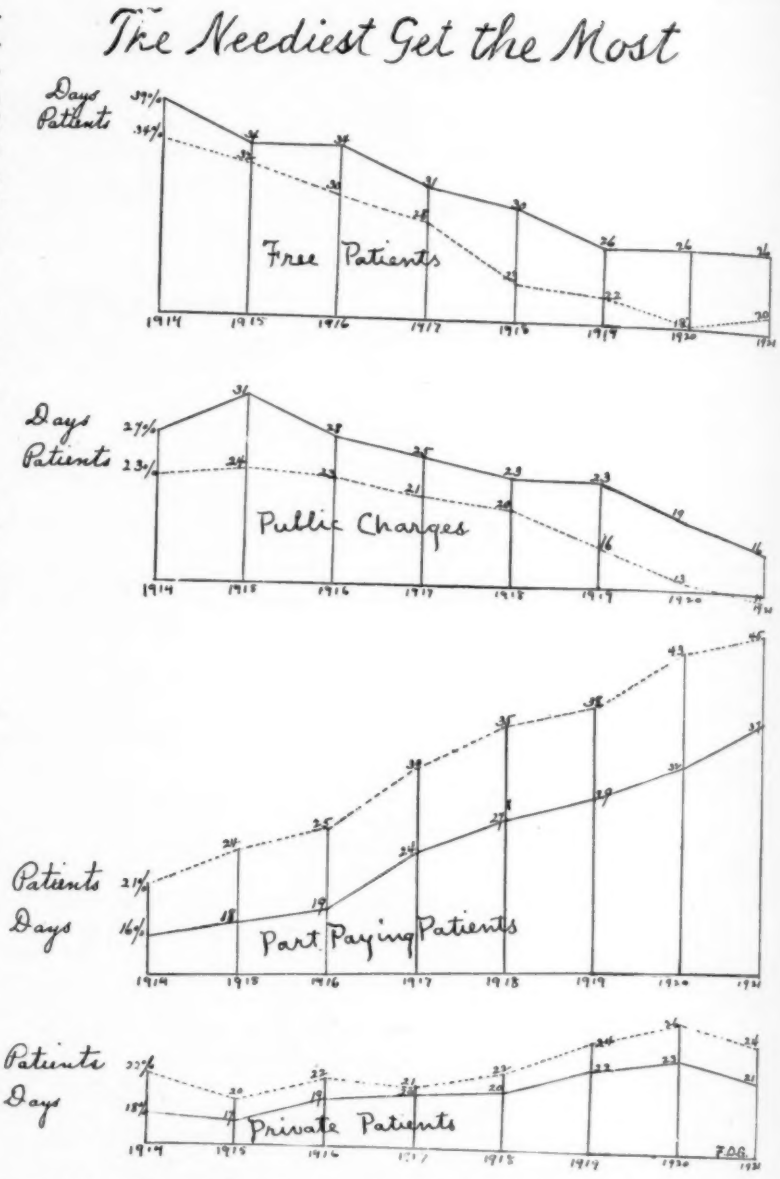
There have been few hospital meetings at which in one form or another the following question has not been asked: Should interns be paid a salary in addition to the board, room and laundry which they ordinarily receive in an institution? The writer's answer to this question is decidedly, No! Interns are students. If their instruction does not compensate them for their service, then that instruction is not good enough. Improve the instruction which your hospital gives, and you will get good interns. Try to make up for this deficiency by paying a salary and difficulty will arise. Resident physicians should, of course, be paid, but they must have had an internship previously

and are, therefore, definitely valuable. Hospitals which cannot offer good enough training to attract interns without monetary compensation should not be permitted to train them. An intern's loan fund will take care of the man who needs financial help. Interns should not be permitted to accept private fees from patients. The morale of the service can easily be upset in this manner, and the hospital will be open to criticism. *Does* pay attract better interns to the hospital? The answer is again, No. The really good men are distrustful of the hospital which offers them a salary. The intern's mental process is just this: "There must be something wrong with the service at that hospital if it must pay interns in order to get them."

As was said before, it is not imperative that a hospital be large in order to provide a good internship. A fifty bed hospital can give good general training, if well equipped and manned. Twenty patients who are acutely ill are enough for each house officer if he is to do his work efficiently and have the requisite amount of sleep and recreation. If unusually complete case records are kept, and the hospital is a teaching institution, perhaps one intern to fifteen patients is a more proper ratio. These matters are governed by the needs of the individual institution.

Carefully formulated rules and regulations for interns should be at hand. They should be read by every intern before he accepts the service, and they should be enforced to the letter by the hospital. Interns should not be permitted to shirk their work or to acquire lazy habits. It is much better to be lacking one intern than to keep a laggard in the hospital. Keep as careful a record of the work of your interns as your superintendent of nurses keeps of that of nurses in training. Let the interns know that it is being kept, and occasionally it may be wise to show them their record. Also, let it be known that this record will be used as a means of recommendation for positions. If an intern does good work in the hospital, do all that you can to assist him in securing the type of location which he may wish. This will frequently be an internship or residency in another hospital, which the superintendent, through his acquaintance with other executives, should be able to arrange.

To summarize: (1) The hospital which would have efficient intern service must provide a training school for interns which in many ways is analogous to the nurses' training school; (2) rather than exploit the service of the intern, the instruction should fully compensate the intern for his services by means of well-rounded, carefully directed training.




The above graphs, based on the statistics of fifty-eight hospitals of the United Hospital Fund, New York City, show that the patients who pay nothing at all themselves, in the two top sections, get more days of treatment in proportion to numbers than those who pay. This is because the poorest are in worse physical condition when they come and do not have good homes to go to for convalescence.

## JOINT CATHOLIC HOSPITAL CONFERENCE TO BE HELD IN DULUTH

The next meeting of the Minnesota-North Dakota State Conference of the Catholic Hospital Association will be held at the Villa Scholastica in Duluth, July 18-19, it was decided at a recent session of the executive committee held at St. Mary's Hospital, Duluth. This delightful location will be an incentive for many to attend who might not consider going to a meeting at that season, it is believed. At the same time there will be an opportunity to see the splendid new unit of St. Mary's Hospital completed this year. Those who attended the executive committee meeting are as follows: Sister Olivia, St. Mary's Hospital, Duluth; Mother Conchessa, St. John's Hospital, Fargo, N. D.; Sister Adolphine, Loretta Hospital, New Ulm; Sister Leona, St. Mary's Hospital, Duluth; Mother Madeleine, St. Mary's Hospital, Minneapolis; Sister Bernard, St. Vincent's Hospital, Crookston; Sister Agnesina, St. Joseph's Hospital, Mankato.

## DISCUSS OLD AGE PENSIONS

At the January meeting of the board of trustees of the American Hospital Association, a lengthy discussion of old age pensions for hospital executives took place. Several possibilities were suggested, but the board decided that the matter is complicated by factors not present in other fields of work. The question will be investigated further. However, the board was unanimous in its decision that the association should take the initiative.

# NAMES A. H. A. COMMITTEES FOR 1923

President Asa S. Bacon of the American Hospital Association has made the following announcement of a partial list of committee appointments for 1923:

## Special Committees

### Gauze Renovation and Standardized Dressings

A. B. Denison, M.D., assistant director, Lakeside Hospital, Cleveland, Ohio.

Miss Clarabelle Wheeler, superintendent of nurses, Mount Sinai Hospital, Cleveland, Ohio.

Sister Cornelia and Sister Patricia, St. Vincent's Charity Hospital, Cleveland, Ohio.

Sister Amadeus and Sister Agnes Therese, St. John's Hospital, Cleveland, Ohio.

Guy J. Clark, purchasing agent, Cleveland Hospital Council, Cleveland, Ohio.

John D. Spellman, M.D., superintendent, Touro Infirmary, New Orleans, La.

### Committee on Hospital Forms

A. C. Bachmeyer, M.D., superintendent, Cincinnati General Hospital, Cincinnati, Ohio.

F. E. Chapman, director, Mount Sinai Hospital, Cleveland, Ohio.

John F. Bresnahan, M.D., superintendent, Bridgeport Hospital, Bridgeport, Conn.

### Committee on Hospital Flooring

F. E. Chapman, director, Mount Sinai Hospital, Cleveland, Ohio.

### Committee on Relations Between Hospitals, States and Cities.

John E. Ransom, superintendent, Michael Reese Dispensary, Chicago, Ill.

Herman Smith, M.D., superintendent, Michael Reese Hospital, Chicago, Ill.

J. J. Weber, editor, THE MODERN HOSPITAL, Chicago, Ill.

E. T. Olsen, M.D., superintendent, Englewood Hospital, Chicago, Ill.

### Committee on Government Surplus Supplies

Winford H. Smith, M.D., director, Johns Hopkins Hospital, Baltimore, Md.

Thomas Howell, M.D., superintendent, The Society of the New York Hospital, New York City.

Joseph B. Howland, M.D., superintendent, Peter Brent Brigham Hospital, Boston, Mass.

### Standard Specification of Canned Goods

Guy J. Clark, purchasing agent, Cleveland Hospital Council, Cleveland, Ohio.

Henry J. Southmayd, assistant director, Mount Sinai Hospital, Cleveland, Ohio.

## Exposition Committees

### Buildings: Construction, Equipment and Maintenance

S. S. Goldwater, M.D., director, Mount Sinai Hospital, New York City.

John M. Peters, M.D., superintendent, Rhode Island Hospital, Providence, R. I.

W. E. Woodbury, M.D., director, Fifth Avenue Hospital, New York City.

F. E. Chapman, director, Mount Sinai Hospital, Cleveland, Ohio.

Christopher G. Parnall, M.D., medical superintendent and director, University Hospital, Ann Arbor, Mich.

R. G. Brodrick, M.D., director, Alameda County Hospital, San Leandro, Cal.

Robert J. Wilson, M.D., director, Bureau of Hospitals, New York City.

H. E. Webster, superintendent, Royal Victoria Hospital, Montreal, Canada.

J. B. Howland, M.D., superintendent, Peter Bent Brigham Hospital, Boston, Mass.

Winford H. Smith, M.D., director, Johns Hopkins Hospital, Baltimore, Md.

### General Furnishings and Supplies

Miss Margaret Rogers, superintendent, Lafayette Home Hospital, Lafayette, Ind.

Miss Mary L. Keith, superintendent, Rochester General Hospital, Rochester, N. Y.

Miss Margaret M. Cumming, superintendent, Christian H. Buhl Hospital, Sharon, Pa.

Miss Annette B. Cowles, superintendent, Children's Free Hospital, Louisville, Ky.

### Clinical and Scientific Equipment and Supplies

Louis R. Curtis, vice president, St. Luke's Hospital, Chicago, Ill.

### Foods and Equipment for Food Service

C. W. Munger, M.D., superintendent, Blodgett Memorial Hospital, Grand Rapids, Mich.

F. R. Nuzum, M.D., director, Santa Barbara Cottage Hospital, Santa Barbara, Cal.

Miss Marion Peterson, administrative dietitian, Lakeside Hospital, Cleveland, Ohio.

C. T. Johnson, superintendent, Washington Blvd. Hospital, Chicago, Ill.

Miss Alice Thatcher, superintendent, Christ Hospital, Cincinnati, Ohio.

### Laundry Equipment and Supplies

W. P. Morrill, M.D., superintendent, Charity Hospital, Shreveport, La.

G. F. Stevens, M.D., superintendent, General Hospital, Winnipeg, Canada.

David H. Fuller, M.D., superintendent and medical and surgical director, Municipal Hospital and Dispensaries, Fall River, Mass.

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## DR. DENISON HEADS LAKESIDE

Dr. A. B. Denison was last month appointed superintendent of Lakeside Hospital, Cleveland. He succeeds Dr. R. H. Bishop, Jr., who resigned to accept the secretaryship of the University Medical School group in Cleveland.

Dr. Denison is only 32 years old, being one of the youngest superintendents of a large hospital in the country. He was graduated from Ohio Wellesley University in 1912 and received the degree of doctor of medicine at Western Reserve University in 1916. He became an intern at Lakeside Hospital and then resident physician.

In 1918, during the war, Dr. Denison was commissioned a lieutenant and was stationed at Edgewood, Md., in the gas defense service. After the armistice he returned to Cleveland to become assistant superintendent of Lakeside Hospital.

Dr. Denison is the fourth of his name and profession. The first Dr. A. B. Denison began practicing in Pennsylvania in 1797.

# THE INFORMATION DESK

*No satisfactory solution to a problem in your hospital is too trivial to pass on to other workers in the field. No question that perplexes you is too small to bring to the attention of those with greater experience in the field. This department is the readers' exchange, and its usefulness is dependent upon the measure in which its readers share their problems and their discoveries.*

## WHO SHOULD HEAR COMPLAINTS?

When a physician hears a complaint from his patient, should he refer it to the floor supervisor or to the superintendent of nurses?

This question put by one of our readers touches upon a problem which is constantly being met in the hospital. The answer to it will vary according to the organization, size of the training school, nature of the complaint, etc.

Unless it is some gross error the matter first should be taken up with the head nurse or the floor supervisor. That is what she is there for, to manage things smoothly and efficiently so there will be no complaints from either doctors or patients. In justice to her, she should know of the complaint first that it may be corrected, or the misunderstanding cleared up for the nurses are not always at fault. For example, a physician may tell his patient he may have some particular treatment or articles of diet and then forget to order them, not realizing his omission until he talks with the patient the following day.

On the other hand, if the same criticism comes up again it should be taken to the superintendent of nurses that she may investigate. The principal of most training schools already is swamped with detail but in spite of it she is more than anxious to know when things fail to run smoothly and she wants the physicians to come to her and not to go outside criticizing the type of nursing service they receive. In the very small school, the difficulties very naturally would go to the superintendent of nurses, but as the school or institution increases in size, this detail work is often delegated to assistants.

## SURGICAL DRESSINGS AT MEAL HOURS

"What, oh what," appeals a small hospital superintendent, "can one do with doctors who insist on making surgical dressings at meal hours

Most hospitals have rules stating that dressings and rounds cannot be made during meal hours. Likewise most hospitals find that with slight relaxation, the attending men and particularly the interns begin to make rounds and dressings at such times and assume that the rule is forgotten; so the custom of rounds and dressings during meal hours is established.

If members of the medical staff are told that the patients' meals are neglected if nurses are taken away from this duty to make rounds and dressings, they usually will see the reasonableness of the rule and be glad to conform to it. Or if the situation is properly put to them, they will be very willing, if conditions are such that they must make rounds and do dressings during meal hours, to dispense with the services of nurses at such times. Of course, there is no question about interns: they can be ordered to do this.

If conditions are such that from the medical men's point of view it is absolutely essential to make rounds and do dressings over the meal hours, and because of the shortage of the personnel the meals are being neglected, one of the two following things may be done:

1. Prohibit nurses from accompanying attending-men on rounds, and if it is found that dressings can be done and meals served, to allow the nurses to help on dressings.
2. If there is not a sufficient nursing force to assist at dressings and to serve the meals, the hospital might:
   a. Employ additional personnel to cover this situation, or
   b. Forbid the nurses to assist at dressings during meal hours.

## TEACHING INTERNS

Superintendent Louis J. Frank of Beth Israel Hospital, New York, has set down what he considers some essential principles in the teaching of interns. They are:

1. Upon arrival to the hospital, the intern should be assigned for one week to a senior intern to be taught how to take histories and make physical examinations.
2. The visiting physician should assign one case each week to every intern. This assignment should be in addition to routine work. The case should be studied, the literature reviewed; diagnosis made and treatment recommended. Once a week the intern should report on this case during rounds.
3. Such assignments will force the attendings to learn and to teach. They will have to be present at the weekly reports and discuss the intern's presentation.
4. Assistant attendings should demonstrate the use of new apparatus and of the performance of new tests in the wards.
5. All cases should be studied as type cases for the purpose of instruction, and as individual cases for the purpose of treatment.
6. To older interns should be assigned statistical studies or minor investigations, such as are deemed suitable by a committee on research for instruction.
7. This research committee should consist of the director of laboratories, *ex officio*, a visiting physician and a visiting surgeon.
8. Senior interns should be encouraged to present cases before medical conferences and to read reports of their investigations before the alumni association.

## AN INVITATION TO CRITICIZE

To the list of forms for soliciting criticism from the patient concerning his care while in the hospital, which have been published in this department during recent months, Superintendent Louis Levy of Jewish Hospital, Cincinnati, adds the following, which has proved most helpful in his institution:

THE JEWISH HOSPITAL
CINCINNATI, O.

The Board of Directors of the Jewish Hospital are desirous of rendering patients the best possible service, and would welcome any suggestions that might add to the efficiency of the hospital.

I trust your stay has been as pleasant as possible under the circumstances, and the services rendered most satisfactory.

Very truly yours,
*Samuel Straus,*
President.

*Criticism of service or treatment:*

*Suggestions for betterment :*

*Name* .....

*Date* .....

*Address* .....

## SAFEGUARDING STERILIZATION

What are the relative merits of "Diack" tubes and of a recording gauge attached to a surgical dressing sterilizer, asks a superintendent?

We have been using Diack tubes for some time at Mount Sinai Hospital, New York, says Dr. S. S. Goldwater, the director. We began using them before installing a recording gauge of any sort, and on one or two occasions they gave early indications of trouble with the sterilizers, and so proved their value.

A good deal might be said about recording gauges. Recording thermometers were installed in our sterilizing rooms some time ago; recently our thoughtful chief engineer pointed out that the recording thermometer in itself is not a reliable guide to the work that the sterilizer is doing, for it seems possible, without putting on the vacuum or introducing steam and getting thorough penetration of the contents of the inner chamber of the sterilizer, to record a temperature which, taken by itself, would seem to indicate sterilization; and yet complete penetration is indispensable.

For reliable service, there appears to be needed not only a recording thermometer, but an automatic record of pressures within the sterilizing chamber. Such a double check furnishes some indication that sterilization is effective. Add a Diack tube, and then, assuming that the "Diack" results are observed, and that the records of temperature and pressure are carefully studied every day, the check upon the whole system may be regarded as pretty thoroughly established.

Nothing satisfies surgeons, who are intent upon asepsis, quite so much as careful bacteriological tests. Such tests, covering the sterile water supply as well as surgical dressings, should be made periodically, as a routine laboratory contribution.

All of these precautions are superfluous where the apparatus is in good order, and is in charge of an intelligent and thoroughly conscientious attendant. But this is a department where no needless chances should be taken.

## CONSTRUCTION AND CLEANING OF WALLS IN CITY HOSPITALS

A requisite for a clean wall is a wall that has been properly constructed and finished, says E. S. Gilmore, superintendent of Wesley Memorial Hospital, Chicago. Tile has been used for inside walls for so many years that most readers will be concerned with it only. The newer inside walls are largely made of composition whose principal ingredient is gypsum. It is lighter and freer from alkalis but it will bear less weight.

Tile absorbs sound and is fireproof. Outside walls of brick or stone should have an inside layer of porous brick. The tile and porous brick should be thoroughly dry when placed in the wall; otherwise, for a number of years saltpeter will exude and stain the wall. When the tile has been wet and there is a probability of saltpeter stain, it should be treated before plastering with a waterproofing material with an asphaltum base. The walls should be surfaced with three-fourth inch of rockhard plaster (plaster with a cement base) and a putty coat one-fourth inch thick. They should never be painted until they are dry and hard. It is much safer to calcimine walls for a year. When the walls have not been properly made and saltpeter stains show through the calcimine or paint, the affected parts should be waterproofed to neutralize the alkali in the tile. There is a trade preparation very satisfactory for this purpose.

Walls will last longer and look better if they are covered with canvas a little heavier than muslin. The canvas should be coated with three or four coats of filler and rubbed with sandpaper. If canvas is not used the putty coat should be covered with one or two coats of primer. When painting it is best to use two coats of interior flat paint. To obtain a glass finish one should add a little varnish to the paint. When thoroughly dry the walls should be starched as follows: Boil one teacupful of ordinary laundry starch in a quart of water until the starch is thoroughly dissolved, then pour into warm water (about 100 degrees), bringing it up to two gallons. Apply with a calcimine brush eight inches wide and five inches deep. The appearance will be much improved if the starch is stippled in, just as if it were another coat of paint. If the walls are painted a "Tiffany," instead of starch a flat, transparent varnish should be used.

Walls should be washed every two or three months. Nothing is gained by infrequent washing for dirt will sink into the paint, and during the effort necessary to remove the dirt some of the paint also will be removed. With frequent washing the starch or varnish will protect the paint and the dirt will be easily removed. Starch is removed with the dirt. If the walls are then re-starched, they will remain presentable without repainting it from one-half to two-thirds longer than otherwise.

For washing walls it is well to use a solution of ten quarts of water containing one-half of any good washing powder. A good washing powder will have a minimum of alkali. The solution should be applied with a sponge, the wall being rubbed gently with the sponge until the dirt and the starch are loosened. This then should be removed with a clean sponge and clean water. It is better to have one sponge and one pail for the solution and another sponge and pail for the clear water. The wall is then ready for re-starching.

# NURSING AND THE HOSPITAL

*Conducted by* CAROLYN E. GRAY, R.N.,
Department of Nursing Education, College for Women,
Western Reserve University, Cleveland, Ohio

# CENTRAL SCHOOLS OF NURSING IN CONNECTION WITH UNIVERSITIES*

By CAROLYN E. GRAY, R.N., M.A., Department of Nursing Education, College for Women, Western Reserve University, Cleveland, Ohio.

NATURALLY my approach to the subject of central schools of nursing in connection with universities is influenced by the work I am attempting to do, and it would be more accurate to express the title of this paper in the singular number instead of the plural.

I know little of central schools, but I am learning something of the difficulties of organizing one central school, and perhaps something of our experience in Cleveland may prove interesting. You will agree with me that the essential difference between a central school connected with a university and other types of central schools is that the first should measure up to academic standards, that the nursing students should qualify for admission just as all other students do, and the work done should be of university grade and entitled to credit.

If you accept this definition you will probably agree that a survey of the existing schools of nursing is necessary, and gives one a valuable starting point. When the report of the Cleveland Survey was first published I thought it a remarkable and interesting book. But since I have been working in Cleveland I have come to regard it, and depend upon it, in much the same way that a tourist in a strange country depends upon his Baedeker. It is a perfect mine of information, and this information is assembled in such fashion that it gives first a bird's eye view of the whole problem, and then the detailed minutiæ that show up the similarities and dissimilarities of our schools in a truly remarkable way. I count it great good fortune to have had this report, for it has been a veritable guide in my visits to and study of various hospitals.

There are twelve registered schools of nursing in Cleveland and these vary within rather wide limits. Some are very good, and some are operating under great difficulties. The number of new students required each year is about 300, but this represents the number that can be accommodated in limited quarters rather than the number actually needed. Plans for building five new hospitals (Lakeside, Maternity, Children's, Huron Road, St. Luke's) are under consideration and when completed the need for students will probably be doubled, because this list includes our largest and most active hospitals. In every instance the bed capacity is to be decidedly increased. In addition City Hospital is adding new pavilions at a rapid rate, and each new pavilion calls for an increased number of students. Each of the five new hospitals has to meet the problem of providing dormitories for its students and graduate staff. A sixth hospital, Mount Sinai is also planning to build a dormitory for its students.

## One School Building for All

Invariably the question arises: Shall each school provide laboratories and teaching facilities in its dormitories, thus building six teaching sections, one for each dormitory? Or shall they combine their classrooms, and erect a school building that will serve their needs, and also serve the teaching needs of other schools that may wish to take advantage of such an arrangement? There is very general agreement that a school building will best serve the needs of the various hospitals, and will take care of increasing needs most readily.

Accordingly, we have come to think of our central school as one of the three branches of a complete university school, which is our ultimate goal. And this idea of a central school has taken deep root in our hearts and minds, for it offers not only a solution of many teaching problems, but a constructive plan to meet prospective needs. May I say right here, that our building is, as yet, only a thing of dreams and hopes, aspirations and ideals; nevertheless in imagination it often takes shape and we see laboratories for classes in nursing procedures, chemistry, physics, bacteriology, nutrition, anatomy and physiology, also a rest room for our students, a reference library and offices for the various instructors.

And these instructors we picture as members of the faculty, having both university and hospital connection. We have even pictured our location, (not perhaps the exact plot of ground, but as near as possible to the College for Women). It is planned that each nursing school will continue to admit and house its own students, so that each will locate its own dormitory as near the hospital they serve as they wish. But because the central school is to be the teaching building for many hospital schools, it seems wiser that it should align itself with the college which is pre-eminently concerned with the education of women. Moreover the nursing students will benefit by this connection and have a share in the cultural opportunities, traditions, and atmosphere of college life. On the other hand, the college students will see *nursing* as one of the professions for which they may fit themselves, and a mingling of both groups of students will do much to break down

*Read at the last annual meeting of the National League of Nursing Education, Seattle, June, 1922.

the isolation of our schools and bring about a recognition of the common elements in our problem, for both the college and the schools of nursing are striving to educate women to live up to their highest levels of usefulness.

## Students to Get Academic Credit

All these dreams of our physical plant have not deterred us from spending the major portion of our time in planning such reorganization of our curriculum and hospital experience as will make it possible for our students to have their work recognized in terms of academic credit. We expect our central school students to matriculate at the college, and even though their professional education will *not* entitle them to a degree, it will entitle them to a certain amount of credit toward a degree, so that if at any future time they wish to return and complete their work for a degree, they will be recognized and accepted just as any other student whose course has for any reason been interrupted.

This whole plan presupposes that the opportunities offered in the various nursing schools that expect to become affiliated with the central school shall be comparable and of equal value. The social conscience and cooperative spirit that are characteristic of Cleveland prompted the decision to extend university affiliation to any nursing school that is willing to comply with certain standards. These standards are based on the survey recommendations, and were worked out in conference with representatives of the nursing schools, and a special committee from the faculty of the College for Women.

## Standards for Affiliation

These standards are as follows:

1. *School of Nursing Committee*—That each school affiliating with the college shall have representation on the committee of citizens supporting this work.

2. *Committee on Affiliation*—That applications for affiliation between a hospital school of nursing and the college shall be made to, and acted upon, by a special committee appointed by the college. This committee shall consist of one member from the committee of citizens supporting this work, one member from the faculty committee on nursing education, one superintendent of a nursing school nominated by the local league of nursing education, and the director of the department.

3. *Budget*—That the budget for the school of nursing shall be separate from the general budget for hospital expenses.

That all instruction, whether given in the college, school classrooms or hospital wards, shall be paid for.

That there shall be a definite understanding of the amount of time to be spent in teaching by persons who serve in the dual capacity of administrators and instructors. Such services shall be paid for separately and charged to the budget of the hospital or school as the case may be.

That for a period of five years schools shall be allowed to operate under plan 1 or 2:

PLAN 1. Entrance fee of $25.00. During preliminary term school provides board, lodging and laundry. Student provides own textbooks. After preliminary term school provides board, lodging, laundry, uniforms and textbooks.

PLAN 2. Entrance fee of $25.00. During preliminary term school provides board, lodging and laundry. After preliminary term school provides board, lodging, laundry, and pays student an allowance of $15.00 per month which is intended to cover cost of uniforms and textbooks.

4. *Entrance Requirements*—High school graduation or equivalent acceptable to the college. 18 years of age.

5. *Preliminary Period*—That there shall be a preliminary period of four months during which elementary nursing and the basic sciences are to be taught. Work on the wards during this period shall be only in connection with classroom teaching.

6. *Basic Training*—(a) That there shall be a basic training of two years and four months. (b) That the education offered during the two years following the preliminary term shall be in accordance with the following schedule:

CLASS WORK IN HOSPITAL

| | Credits |
|---|---|
| Drugs and solutions, materia medica and therapeutics | 3 |
| Medical nursing including pathology and diet in disease | 4 |
| Surgical technique, surgical nursing and nursing in specialties: orthopedic, gynecological, eye, ear, nose and throat | 4 |
| Obstetrical nursing | 2 |
| Pediatric nursing | 2 |
| Communicable diseases (to include incipient tuberculosis, social diseases, skin, and occupational) | 5 |
| Mental hygiene and mental and nervous diseases | 3 |
| Massage and occupational therapy | 2 |

Practical experience in all these branches. Class work to precede or be simultaneous with practical experience.

TIME ASSIGNED TO VARIOUS DEPARTMENTS

| | Months |
|---|---|
| General medical including diet in disease | 4 |
| General surgical includng surgical or medical dispensary | 4 |
| Operating room or accident ward | 2 |
| Vacation | 1 |
| Obstetrics | 3 |
| Pediatrics | 3 |
| Communicable diseases | 3 |
| Mental and nervous | 3 |
| Vacation | 1 |

(c) That in addition eight months of elective work shall be offered. This elective work shall include special opportunities in nursing of private patients, surgical nursing, nursing of children, public health nursing, teaching, supervision, and giving of anesthetics.

7. *Clinical Facilities*—That each school shall provide adequate clinical facilities for instruction, not only in the four main branches, i.e., medical, surgical, children's diseases and obstetrics, but also in communicable diseases and mental and nervous disorders.

8. *Correlation of Classroom Instruction and Hospital Training*—That classroom instruction shall precede or be simultaneous with ward training. Class work shall be repeated for different sections to make this possible, and shall be in accordance with schedule.

9. *College Credit*—That all nursing students who wish college credit shall submit a statement of their professional training (including theory and practice) on blanks to be provided by the college.

10. *Vacation*—That a vacation of one month shall be allowed each student the first and second year.

11. *Hours of Duty*—That the hours of day and night duty shall be limited to 44 hours per week.

12. *Night Duty*—That night duty shall be limited to 12 weeks, no term of which shall be longer than 4 weeks.

13. *Provision for Supplementary Services*—(a) Graduate nurses shall be in charge of wards and provide for adequate teaching. Two-thirds time charged to administration. One-third time charged to instruction.

(b) Graduate nurses shall supplement number of the students needed to staff the wards. The hours of head nurses shall be limited to 48 hours per week.

(c) Ward helpers for duties exclusive of those needed for education and experience of the student.

## Two Years to Meet Standards

Much time has been spent in visiting hospitals, and in meeting various boards and interested groups for the purpose of presenting and explaining these standards. This has been a very interesting part of the work, for it has afforded opportunity for acquaintance and mutual understanding based on the give and take of friendly discussion. *All* of the schools are interested; many are definitely planning to put our requirements into effect. The general response has been a frank recognition of the difficulties inherent in such a task, coupled with eagerness to make a sincere attempt to do so. Repeatedly we have put the question: Shall we go ahead without attempting standardization? The answer has always been an unequivocal, *No.* A few schools recognize that they cannot qualify but bear us no ill-will, and are content to jog along in their own way. As our project will not injure them, there is no reason why they cannot do so, possibly more successfully than heretofore, because all applicants who cannot qualify for admission to the central school will be referred to them.

We estimate it will take at least two years for our most forward-looking hospitals to qualify because the changes required are far-reaching, and must be made gradually in order that the work of the hospitals shall not suffer.

While waiting for our plans to materialize we have conducted several courses for the graduate nurses employed as instructors, supervisors and head nurses in our various schools. The purpose of these courses has been to develop an appreciation and understanding of our project, so that we may be able to count on a certain degree of likemindedness in those who occupy such key positions. Further progress depends upon an endowment to cover (a) the cost of erecting a teaching building; (b) the cost of furnishings and laboratory equipment; (c) the upkeep of the building, light, janitor service; and (d) salaries.

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## SUMMER COURSE AT STANFORD

President Ray Lyman Wilbur of Stanford University, Palo Alto, Cal., has authorized the giving of a special five-week summer course for administrators and instructors in schools of nursing, beginning in June. It is expected that the course will prove especially attractive to graduate nurses of the West and Middle West.

# INSTITUTE FOR INSTRUCTORS IS GREAT SUCCESS

AS REPORTED BY ELSA SCHMIDT, R.N., VISITING INSTRUCTOR, SCHOOLS OF NURSING, NEW YORK CITY.

TO HOLD an institute in New York City, long has been a cherished hope of the executives of the New York State League of Nursing Education. This hope was the outgrowth of the constantly increasing demand for better instruction and particularly for more adequately prepared instructors in our schools of nursing. It was believed that an institute of short duration would be helpful to both supervisors and instructors, who, for various reasons were prevented from attending the courses offered in the department of nursing and health, Teachers College, Columbia University.

The New York State League is organized in various sections and it was thought best for two sections, Nos. I and V, which are in such close proximity, to unite in formulating plans for the institute. Early in September a circular letter was sent to the directors of all the schools of nursing in the boroughs of Manhatten, Bronx, Brooklyn, Queens, Richmond and West Chester, stating the purpose and plans for an institute and asking for cooperation.

The interest and enthusiasm expressed in the letters received encouraged us to make more definite plans. At the executive meeting of Section No. 1 held in November, it was decided to appoint a chairman, leaving her free to select her own program committee and make plans for the institute. The chairman secured the following members to act with her: Miss Bayley, director of education, Bellevue School of Nursing; Miss Elizabeth Burgess, instructor in nursing and health, Teachers' College; Miss May Robinson, director, school of nursing, Long Island College; Miss Mabelle Walsh, executive secretary, Eastern Council of Nursing Education. The first week in January was decided upon as the most suitable time.

## Institute Opened January 2

The first session was held January 2, 1923 at Nightingale Hall, the nurses' residence of the Presbyterian school of nursing. A large number of nurses were present.

Owing to the absence of the president the meeting was opened by Miss Helen Young, the secretary of section No. I, who explained briefly the aim and plans.

Miss Kate Madden, president of Section No. V, made a brief response expressing her pleasure in the progress that had been made. She expressed the hope that similar institutes may become a permanent part of the activities of the New York State League.

The address of welcome was given by Miss Anna Maxwell, who, with her usual wit and vigor, launched the activities of the sessions in her own inimitable fashion.

Practically the entire first day was given over to the teaching of principles and practice of nursing, a major subject in the curriculum of schools of nursing.

Miss Elizabeth Burgess, instructor in nursing education, Teachers' College, introduced the subject from the point of view of the supervisor, speaking most emphatically on the need for better supervision and on the importance of developing better-qualified instructors and supervisors.

There followed a helpful address by Miss Isabel Stewart, assistant professor of nursing, Teachers College, on "How to Judge Nursing Standards." Miss Stewart presented eight important standards for judgment, each illustrating a specific and important phase in the attempt to reach that 100 per cent efficiency in nursing practice. The importance of securing more scientific methods in developing our technique, and in checking up our results was strongly emphasized by the speaker.

In the afternoon an interesting class in practical nursing was conducted by Miss Helen Young, director of the school of nursing, Presbyterian Hospital, her particular subject being "How to give a Colon Irrigation." In this lesson many helpful subjects, from the standpoint of guiding principles of teaching as well as simplifying technique, were included.

Miss Ink, visiting instructor in New York City, then presented the important topic, "How to Prepare a Lesson." Miss Ink's suggestions in the use of illustrative material were particularly helpful.

Following the program of the first day a tea was given by the students of the Presbyterian school of nursing.

The next morning, January 3, a large group of members assembled at Teachers College to attend a class in chemistry taught by Miss Charlotte Francis. The students were a group from the department of nursing and health.

## Miss Nutting Gives Inspirational Talk

One of the most highly appreciated contributions to the program was an address made by Miss M. Adelaide Nutting, professor of nursing, Teachers College, on "The Work of the Instructors in the Schools of Nursing." Her address was a stimulus to every instructor present: in the first place to become a really great teacher of nursing as we have had great teachers of medicine; in the second place to make a much more effective use of the many vital principles which the study of psychology is constantly revealing; and finally, to develop closer relationships with other members of the faculty through conferences and committees.

An attendance of about 150 members gave witness to interest in the topic, "Teaching Students to Acquire Skill," ably presented by Miss Whitley, assistant professor of education, Teachers College. Miss Whitley told us how to utilize psychological resources, and nature's endowment of instincts and emotions, in teaching students the acquisition of skill. Equal emphasis was put on the importance of a definite plan at the outset of the lesson, the right kind of demonstration, and plenty of practice under the most favorable conditions.

In the afternoon of the same day Dr. William Bagley, professor of education, Teachers College, spoke on, "Types of Teaching." Dr. Bagley outlined the effective use of the different types of teaching, pointing out our own advantages in being able to apply, almost immediately, the knowledge and skill acquired in the classroom to the real situation. He further called attention to the importance of ethical teaching in the development of professional ideals and standards through the use of example, through the study of the lives and the contributions made by the leaders in the profession, and through the entire atmosphere of the school.

In spite of a heavy snowstorm quite a large group took part in the excursion to the conference room of the headquarters of the National Health Council in the Pennsylvania Terminal Building, 370 Seventh Avenue. Here Dr. Donald Armstrong, director of the Health Council,

gave the first address presenting briefly the nature of the organization of the Health Council and its present activities. Dr. Armstrong was followed by representatives of each of the following organizations:

National League for Nursing Education—Miss Effie Taylor.
American Nurses Association—Miss Agnes G. Deans.
American Journal of Nursing—Miss Mary M. Roberts.
National Organization for Public Health Nursing—Miss Anna A. Stevens.
American Social Hygiene Association—Dr. William F. Snow.
National Tuberculosis Association—Mr. Philip P. Jacobs.
Child Health Organization or National Child Health Council—Miss S. L. Jean.
American Society for Control of Cancer—Mr. Frank Osborne.
Use of the Library—Miss Florence Bradley.

Another heavy snowstorm during the night did not prevent the members from turning out very early on January 5, to attend a class in household economics by Miss Mary Pillsbury, instructor in the Long Island College School of Nursing. The class was held in the amphitheater of the Long Island College Hospital, and the subject presented was, "Removal of Stains."

This class was followed by an interesting medical clinic on, "The Symptoms and Treatment of Diabetes" by Dr. Luther Warren, professor of internal medicine, Long Island College Medical School. The interest expressed by the students was concrete evidence of the value of the clinical method of teaching over the lecture, often hurriedly presented by someone with too little leisure for adequate preparation.

### Make Excursion to Bloomingdale

The excursion to Bloomingdale Hospital for Mental Diseases was one of the most enjoyable and beneficial experiences of the entire week. The recent snowfall followed by sunshine resulted in a most glorious winter scene for the visitors, and added much to the spirit of the excursion.

The first paper by Miss Adele Poston was entitled, "Practical Aspects of Mental Nursing." Then followed an address by Dr. William Russel, medical director, on "Educational Work at the Bloomingdale Hospital." After a brief history of the important work that had been accomplished at the hospital, Dr. Russel dwelt especially on the need for instruction and practice in psychiatric nursing for all students in schools of nursing.

Dr. Frankwood Williams, medical director, National Committee for Mental Hygiene in his address, "The Place of Mental Hygiene in Nursing Education," called attention to the failure of nurses in general to perceive the need for this subject, social workers having long taken advantage of courses offered. Dr. Williams put special emphasis on making mental hygiene a basic subject, not merely a frill, in our curriculum. This would help the young student to recognize early signs and symptoms of mental illness.

Two nurses of the recent graduating class gave two neat demonstrations, the first a pack for sedative purposes, and the second a continuous bath. The technique of both procedures was particularly good and reflected credit upon the instruction given.

A tour of the hospital with its elaborate equipment, particularly in the department of occupational therapy, revealed great progress in this branch of modern medicine. A happy social hour followed.

### Outlines Teaching of Drugs and Solutions

Early the next morning an eager group met in the auditorium of Mount Sinai Hospital, where Miss Maude Muse, instructor in nursing at Teachers College, presented an outline for the teaching of drugs and solutions. Miss Muse was most painstaking in her exposition and in presenting valuable illustrative material.

A visit through the educational building of the Mount Sinai school of nursing was much enjoyed. The splendid teaching equipment and class rooms excited great admiration.

Perhaps the most enjoyable class was in anatomy and physiology, taught by Miss Lydia Anderson, visiting instructor. This was given to the preliminary course students of the New York Hospital school of nursing. A high degree of originality and practical application, which can only be gained by long experience and study, was in evidence. With these were combined a sense of humor which created a pleasant atmosphere and stimulated the students to try to understand a very difficult lesson on the nervous system.

The excursion to the central building of the Henry Street Visiting Nursing Service, 99 Park Avenue, was attended with great interest and enthusiasm. Miss Annie W. Goodrich, in a most inspiring way, pointed out the vital need for the instructor of nurses to include a broader background of public health nursing in her preparation. This wider vision would hold before her the picture of the needs of the home and community and tend to secure her cooperation in developing more complete courses in pediatrics, obstetrics, etc.

### Desire for Annual Institute

On the morning of January 6, at 9 a. m. the members of the institute met in the classroom of the Bellevue School of Nursing to attend a class in hygiene taught by Miss Elsa Maurer, assistant director of education. Miss Maurer demonstrated an inspiring method of teaching hygiene through the utilization of such worthy motives and ideals as could not fail to grip the interest and enthusiasm of everyone of the students present. The indices of perfect health as expressed not only in terms of economy of time, but primarily in terms of better and more helpful human relationships and altruistic service, assumed a fresh importance to each individual.

In the afternoon a large group took part in the excursion to City Hospital, Welfare Island, where Miss Theodora Le Febvre, the president of Section No. 1, with the aid of her staff, had prepared for us a most enjoyable afternoon. Gathered at tea around the fireplace in the comfortable nurses' home everyone present voiced the success of the institute. The hope was generally expressed that similar institutes might become a yearly event in the activities of the New York State League of Nursing Education.

## NEW TRAINING SCHOOL PUBLICATION

The Brandon Training School for Nurses recently has issued the first copy of its official organ, *The Training School Times*. This has been published by the Student Nurses' Council, and is a magazine attractive in appearance and of good style. It covers sixty pages, full of interesting reading matter of local interest and amusement to the training school, indicating originality and talent in the group, as well as showing a fine *esprit de corps* in the school. The cost of this publication is met mainly by revenue from carefully selected advertising.

A similar magazine is issued annually by the Training School for Nurses of the Vancouver General Hospital, but is more of a valedictory publication dedicated to the graduating class.

Such publications mean a great deal of work, but they often reveal hidden talents and originality. Above all, they create fine school spirit. This ultimately means a stronger nurses' alumnae association.

# DIETETICS AND INSTITUTIONAL FOOD SERVICE

*Conducted by* LULU G. GRAVES,
Supervising Dietitian, Mt. Sinai Hospital, New York.

# THE DUTY OF THE MANUFACTURER TO PROVIDE CLEAN AND SAFE FOOD*

BY JOHN P. STREET, ROCHESTER, N. Y.

SINCE the passage of the Federal Food and Drugs Act in 1906 the whole question of food adulteration has undergone a decided change. Whereas formerly in the purchase of many kinds of food products the purchaser, unless peculiarly alert and well informed, was more than likely to receive sophisticated foods, often containing ingredients actually dangerous to health, today such adulterations are rare indeed, and food adulteration in the strict sense of the term has become a matter of academic interest rather than one vitally affecting the health of our people.

It is true of course that certain classes of foods, often of a more or less compound nature, frequently must be classified as illegal foods because of errors in labeling which make them technically adulterated. Generally speaking, however, most of our food products show a gratifying increase in purity. The problem of the future will be in part the insistence that legal food shall also be pure food, but even more the requirement that all of our food shall be made from good, sound raw material, and that the manufacture, sale and handling of foods shall be conducted in a sanitary manner.

Confirming the statement I have just made relative to the increased purity of foods, a review of the situation in Connecticut covering a period of eighteen years shows that we examined 26,102 samples of food and that among the simple foods the freedom from adulteration increased from 59 to 90 per cent, while among the compound foods the increase was from 27 to only 34 per cent. However, this lack of purity in the compound food was due chiefly to technical adulteration and reflected on the quality of the product rather than on its healthfulness.

At the present time, therefore, the problem of those who are responsible for the purchase of food in the home or the institution is rarely connected with food adulteration. Unadulterated food, however, is only one phase of the food problem. Perfectly good, nutritious and wholesome food may go to the food manufacturer and by faulty processes, slovenly methods or insanitary practices be rendered less nutritious and wholesome, or in extreme cases become dangerous to the consumer. On the other hand, food may be prepared commercially with every attention to sound raw material, proper manufacturing technique and the best modern sanitary practice; it may leave the factory or packing house a safe and wholesome food in every particular, and yet be rendered unsafe and unwholesome by careless handling in the institution, hotel or private home where it is consumed. Such a condition is more prevalent among "fresh" foods that go to the consumer in their natural condition or which undergo no manufacturing process. In fact, foods of this class are generally speaking by far a greater source of danger than processed foods, for the latter have usually undergone a cooking process that very greatly increases their margin of safety. The insanitary refrigerator in the home or institution is probably the most common source of food infection, and too much attention cannot be given to make and keep it clean and sweet.

## Consumer's Care of Food Products

The Federal Meat Inspection Act practically assures the consumer that the meat he buys is sound, is free from pathogenic organisms and is packed in a clean and sanitary packing house by clean workers, free from infectious or contagious diseases. Government inspected meat is sound and wholesome when it leaves the packing house, practically without exception, and in the transportation of the meat products from one state to another, the government still maintains a careful watch that the product on which it has placed its stamp of approval is not allowed to deteriorate during transit due to careless or unintelligent handling. Once in the local market the responsibility for its proper keeping rests on the wholesale and retail dealer, under the supervision of the state or municipal authorities. When the meat is not government inspected, as in the case of local slaughterhouses, inadequate supervision may cause a distinct menace to the health of the consumer. But no matter how much care is exercised by federal, state or municipal authorities, the responsibility for the proper keeping and final preparation of the meat in the home rests very largely on the ultimate consumer, just as with all other classes of foods.

Many safeguards, likewise, are thrown around the production and sale of milk. Unfortunately, however, raw milk is peculiarly liable to infection and, in spite of official inspection, sickness due to contaminated milk is not infrequent. Here again all the advantage gained by official supervision of the production and handling of the milk may be lost through improper care after it reaches the consumer.

*Read before the American Dietetic Association at its annual convention in Chicago, October 26, 1921.

In most of our progressive states sanitary codes are in operation which in a measure safeguard our food products during the various stages of manufacture and sale. There are so many food manufacturing plants, so many warehouses, so many shops, however, that proper official sanitary control of food establishment is almost impossible because of the cost involved. In this connection, it is an interesting sign of the times that certain industries are realizing the importance of a strict sanitary control in their manufacturing processes, due in part to their appreciation of their obligation to the consumer to produce clean products packed by clean people in a clean factory, and in part due to their conviction that any food producer who is not willing to meet such requirements is a detriment to the industry and is entitled to no place in their counsels or in their trade associations. The National Canners Association already has taken such a stand and it is understood that the baking industry is contemplating a similar system of self-inspection, so that more and more the consumer will be able to buy prepared foods with the assurance that the manufacturer has done everything in his power to render his product safe and wholesome and worthy of confidence.

### Canners Out for Sanitation

During the past two years I have been connected with the inspection service of the National Canners Association, and I am glad to have this opportunity of explaining the reasons for this self-inspection, its underlying principles and what it is hoped to accomplish. To some of you I may be known as a pure food advocate, who in the earlier days of strain and stress was often lined up against the food manufacturer, and who was often, I realize now too often, inclined to look upon the average prepared food with more or less suspicion. Those days of working together in close harmony in a real constructive controversy are fortunately past and today the common experience is to find food officials and manufacturers program. In fact, one important department of our organization at the present time is planning active cooperation with food officials to correct unsatisfactory conditions in our own industry. My translation, therefore, from the ranks of the food officials into the inner councils of the canners has been a simple process without any straining of my conscience and without any dulling of my sensibilities as to my responsibility to the consumer. In fact, my two years' connection with the association has been of distinct educational value to me, and by my intimate personal contact with the men who lead in the councils of that association I have been impressed with their high motives, their broad vision and their keen sense of responsibility to the consuming public as well as to the industry they represent. For the past two years the association has been committed to a plan of publicity and inspection. The keynote of its publicity is truth; that of its inspection, sanitation.

The canning industry has been the victim of indifference, inefficiency and ignorance within its own ranks, and of newspaper sensationalism, prejudice and sometimes ignorant official interference from the outside. The truth about canned foods has been neglected to such a degree that even today a large element of our population makes no use whatever of canned foods and a still larger proportion uses them only in a limited way and far below that which their excellence, wholesomeness and purity deserve, with an almost complete ignorance of their value in the preparation of a nutritious, well-balanced dietary for the consuming public.

When one considers the history of this industry it is not hard to understand how some of these misunderstandings and prejudices have arisen. In the early days, cannery equipment and cannery buildings were of the crudest sort. The early canners were fishermen or farmers, and the most convenient shed became the canning factory. There was little about those plants that was attractive, and often much that was unattractive, and the first seeds of public distrust were sown. Likewise in the early days there was no grading of canned foods and necessarily these suffered when compared with foods carefully selected and prepared in the home kitchen. There was little appreciation on the part of the canner himself of the importance of quality as determined by color, flavor, tenderness and sweetness, and this too reacted against the commercial product. Similarly for a long time the tin can itself was viewed with suspicion and by many was not considered a proper container for human food, and the fact that from its very nature the contents of the can could not be seen until after purchase still further led the consumer to believe that tinned food was to be avoided. So it must be recognized that in the minds of many of our people there is a distinct prejudice against canned products, a prejudice, to be sure, founded on the exception and not the rule, but nevertheless a prejudice that must be eradicated before the canning industry can come into its own.

### Canners Association Has Strict Code

Realizing these prejudices, the National Canners Association recognizes that the basis of its membership must be a clean product packed by clean people in a clean cannery, so the first requirement for membership in the association is compliance with sanitary regulations that are more exacting than the sanitary codes in force in most of our states. These requirements, while stringent, are not unreasonable and simply provide for a clean, well-painted, well-lighted and ventilated cannery with ample facilities for washing the machinery and the plant; that clean, sound products be packed in clean cans; that adequate lavatories and well-painted, lighted, ventilated and screened toilets be installed; and that the operatives be clean as regards their person and dress.

In what I have said I have barely referred to the details of what should constitute a good and thorough sanitary inspection. That I believe you know quite as well as myself and it would be trite and a waste of your time to enlarge upon the necessity of abundance of sunlight in the plants, an ample water-supply, clean machinery, clean and healthy workers and the prevention of spoilage of the product from the time it comes into the cannery until it reaches the consumer. These facts are self-evident and need no further emphasis at this time.

Aside from the prejudice existing against canned foods the industry has suffered greatly from unfair and ill-advised published accounts of alleged cases of poisoning for which canned foods have quite commonly been held responsible. Canned foods have too often been the goat on such occasions and the usual practice has been for the physician or the reporters to determine by a relentless search whether or not some time in the later stages of his life the unfortunate victim of the alleged poisoning might have been rash enough to eat some tinned product. If such evidence were forthcoming, nothing else was necessary for those experts to announce in startling headlines the unhappy fate of this the latest victim of "ptomaine poisoning" from the ingestion of a canned food.

As a matter of fact it is the rarity of such occurrences that gives these alleged poisonings their news value. For many years "ptomaine poisoning" was the term com-

monly applied to these cases both by physicians and the press. Through long process of study ptomaines have become better understood, and our disseminators of news have been gradually educated to their real significance, until at the present time the public intelligence is seldom insulted by the loose use of the term, which was once so common. The researches of Rosenau and others have shown that there is no ptomaine problem as far as canned foods are concerned, that frequently no canned food whatever was consumed by the victim, that in many cases where such food was eaten it was proved to be wholesome in every particular, and that in many instances the acute gastro-intestinal disturbances observed were not due to harmful foods of all kind. Erroneous diagnoses were common. Symptoms attributed to ptomaine infection were in reality often found to be due to indigestion, indiscreet diet, excessive eating when fatigued, or to nervous or emotional exhaustion, and further, "ptomaine poisoning" has been mistaken for cerebrospinal fever, malignant tumor, anaphylaxis and dysentery. The "ptomaine poisoning" myth as applied to foods, especially canned foods, has by this time been pretty well exploded, but during the past two years the public has been fed up on a newer form of food poisoning, and because of several rather serious local outbreaks the term "botulism" is rapidly becoming a household word.

### Botulism Rare in this Country

While botulism poisoning has been fairly common in Europe, in the United States it is one of the rarest of diseases. Again it is true, however, that this very rarity, coupled with the disease's high mortality and the distressing symptoms that accompany it, gives botulism its news value, and far more prominence has been given to it than is warranted by its importance. The deaths caused by botulism are quite insignificant when compared with the toll exacted by several of our familiar diseases, whose victims seldom excite any journalistic interest. Tuberculosis, diphtheria, septic sore throat, typhoid fever and paratyphoid fever are familiar diseases which may be conveyed by some of our commonest foods or by the water we drink, but to my knowledge none of these diseases has ever been connected, even remotely, with canned food. It is unfortunately true that in a few instances a commercially canned food has been the means whereby the botulinus toxin was conveyed to the unfortunate victim, but when one considers the billions of cans of food that have been consumed in this country each year for the last forty or fifty years, and the extremely few cases of botulism that can be justly attributed to such foods, it is more than a ten to one shot that you may die from such a rare disease as hydrophobia or that you may be struck by lightning, rather than that you may perish from botulism, the present pet journalistic disease. As stated in an earlier portion of this paper, the common insanitary condition of refrigerators, both in institutions and in the home, should give us infinitely more concern than the extremely remote possibility that the botulinus toxin may find lodgment in our systems through the medium of canned foods.

However, the National Canners Association, realizing that certain canned products have received undeserved unfavorable publicity in this connection, and appreciating its duty to offer to the American public only foods in which it may have the completest confidence, has undertaken certain investigations which it is believed will completely remove even the most remote danger of botulism from the ingestion of canned foods. With your permission I will outline very briefly the work that has been done by the association in this connection, and that which is now in progress.

### Scientific Study of Food Poisoning

At the time of the organization of the National Canners Association in 1907, newspaper announcements of "ptomaine poisoning" were frequent and the association realized the necessity of following up all such alleged poisonings to determine if canned foods were in any way responsible for them. It was appreciated almost at the outset that scientific knowledge of the subject of food poisoning was far from complete and that unfortunate and misleading terminology was in common usage. A special study of the subject was made by Dr. R. S. Page of Bel Air, Md., who reported critically on the alleged cases of poisoning. The necessity for a systematic investigation of the whole subject was evident, and it was realized likewise that this matter could be handled adequately only by medical laboratories equipped with medical and physiological apparatus and with men trained in those fields. The National Research Council, soon after its organization, was interested by the association in this subject and Dr. M. J. Rosenau, head of the department of preventive medicine and hygiene, Harvard Medical School, was named by the council as director of the work. This work was organized in the spring of 1917 and continued according to the original plan for a period of three years. Under the arrangement with the Harvard Medical School this study of food poisoning with special reference to canned foods was to be characterized by the broadest academic freedom and the results published as is usual with scientific articles. It was understood at the start that Dr. Rosenau was to publish his results independently and that reports of his work were not expected by the association.

### Found No Poisonous Bacteria

In this investigation attention was first directed to the bacteria occurring in canned foods and in open market foods. It was found, quite naturally, that foods sold in bulk were always contaminated with micro-organisms of the widest possible variety. Samples of canned foods sent by canners in all sections of the country were examined, as well as samples secured in the open market. The canned foods were incubated for a time to give every possibility for spoilage in case any bacteria were present, were then opened, samples taken for laboratory examination and the balance used at an experimental mess maintained by the workers in the laboratory. This table was continued for several months. The bacteria found living in the various cans were identified and recorded, but it is interesting to note that no cases of illness resulted to any of the eaters of these foods, except some trivial colds which could not in any way have been due to the ingestion of these foods. Of course, the foods used at this table were from cans that were apparently sound, but Weinzirl, working with Rosenau, also examined bacteriologically a number of swells and found no poisonous bacteria. In this work and in fact in all of the work of Dr. Rosenau no botulinus organisms were found, although intensive study of botulinus was not begun until a later stage of his work.

Rosenau's laboratory also studied the subject of ptomaines from a chemical standpoint. The results were negative, and in spite of a study lasting over three years he was unable to find any ptomaine which was poisonous when taken by mouth. As a result of this work Rosenau pointed out a fact, noted by others, namely that the earlier methods for the determination of ptomaines depended on the separation of the ptomaine by volatile solvents from

acid and alkali solutions, these extracts when inoculated into guinea pigs causing death. However, extracts obtained by these same methods from sound meats, when inoculated into guinea pigs, likewise caused death, the poisonous substances probably being caused by the action of the acid and alkali on the protein matter. When given by mouth, however, these foods were not poisonous.

### New Processes Free from Botulism

Dr. Rosenau also secured cultures of all of the known bacteria which secrete poisons and which may produce food poisoning, and studied the metabolism of the bacteria and the influence of the toxin. The properties of the toxins were studied, as well as the manner in which they were produced, and their resistance to heat. In the earlier stages of his work, botulinus was studied incidentally with other organisms; Orr, formerly of Iowa State College, assisted in the work, and since then has devoted his entire time to the study of botulinus. In the summer of 1919, however, when the Canton and Detroit outbreaks of botulism occurred Rosenau began to study this particular form of poisoning systematically and since then has given it special attention. The importance of the subject was so great that arrangements were made by the association to conduct the work on broader lines, and in the winter of 1919-1920 Dickson of Leland Stanford and Meyer of the University of California began active cooperation in the investigation. Furthermore, the U. S. Public Health Service assigned Dr. Geiger to work with Dr. Meyer on this subject, giving special attention to the epidemiology of the disease. Geiger has studied outbreaks of botulism, has seen and treated the patients, and has investigated the plants in which the products were produced and the fields in which the raw products were grown. He has secured samples of food wastes, soil in many localities on the Pacific Coast, and recently has been gathering similar samples from all parts of the country to enable an attack on the problem from every possible angle.

This work on food poisoning goes far beyond the responsibilities and duties of the canning industry. It adds much to the knowledge of the medical profession and it includes poisoning of all kinds, many types of which are not known to have occurred in canning foods and are characteristic of other foods.

The point in all this work which concerns the canning industry most intimately is the determination of the thermal deathpoint of botulinus spores. This work has been carried on in Dr. Rosenau's laboratory. Dr. Dickson has given it much attention and Dr. Esty, the head bacteriologist of the research laboratory of the National Canners Association, has spent nine months working with Dr. Meyer on this subject, taking into Dr. Meyer's laboratory the experience of the research laboratory in working on the same problem with other bacteriological spores. In this work there is determined the time necessary at each of a number of temperatures to destroy the spores of all strains of botulinus which have been isolated. This work is then studied in connection with the work on heat penetration and on the hydrogen ion concentration of foods which is being conducted by the research laboratory and information has already been secured which will make it possible to advise processes before the beginning of the next canning season which will insure a product free from botulinus. Some of the processes which will be suggested will probably be more severe than is necessary. Further study will give us more exact information but the information is already at hand which will make it possible to suggest processes which will give a merchantable article and which will be safe.

## NEWS ITEMS

The Chicago Dietetic Association has chosen the following officers for the year: president, Miss Anna E. Boller, Infant Welfare Society; vice president, Miss Ruth Chambers, St. Luke's Hospital; secretary, Miss Elizabeth Tuft, Wesley Memorial Hospital; and treasurer, Miss Clara Smith, Presbyterian Hospital.

The following chairman of standing committees have been appointed: publicity, Miss Rose Straka, Presbyterian Hospital; revision, Miss Mary Sedgewick, Washington Boulevard Hospital; membership, Miss C. Louise Yeomans, Cook County Hospital; publication, Miss Emma Aylward, Presbyterian Hospital.

This month marks the first anniversary of the *Bulletin* published by the Chicago association. New developments in this service are promised for its new year.

Miss Rose Straka is continuing her monthly bibliography and synopses of all articles dealing with food and nutrition which are published in current magazines.

## THE NEWER PSYCHIATRIC VIEWPOINT

"There is a need of development of the means with which to broaden our psychiatric viewpoint," says the latest annual report of the trustees and superintendent of Butler Hospital, Providence, R. I.

"In medicine and the problems related to it, we have been through various periods, in each of which there was some predominant note; for example, in the early days mental diseases were supposedly connected with demoniacal possession, later with mysticism. From that we have evolved through the ages of blood disorders, toxemias and vague hereditary facts up to the present time when much of our attention is directed on the one hand to the endocrine glands and the vegetative nervous system; on the other to conflicts, repressions, regressions and unsuccessful sublimations.

"Is it not necessary at all times to aim at an all-round viewpoint? This, it seems to me, we should ever keep in mind. Although psychiatry belongs to the younger generation of the medical hierarchy, much progress has been made regarding etiology, scientific diagnosis, rational treatment and prognosis. There are cases, clear-cut, the etiology definite, the diagnosis thoroughly agreed upon, the treatment obvious and the outcome fairly well established; but in many cases we have need of more thorough investigation.

"First we must obtain an adequate painstaking history of our case, keeping clearly in mind that mental disorders —no matter what name we may give the psychosis or psychoneurosis—are really the individual's psycho-biological reaction to difficulties encountered. And it is only by a clear understanding of the mental and physical endowment of the individual, of his reaction to life in general, and especially from a knowledge of the particular difficulty which he has encountered—be it tumor of the brain or social maladjustment—that we shall be in a position to understand the individual's reaction to the situation and to institute intelligent measures toward the restoration of that patient to normal health. We have been far too apt in the past to give the condition a name without a clear understanding both of the patient and the difficulty.

"With this newer conception clearly in mind, we can continue our investigations. In many cases we must make a psychometric estimation of intelligence. We must be prepared to deal with the disordered psychological activities; we must conduct a careful physical examination, calling to our aid all the accepted procedures as to body metabolism and its variations."

# HOSPITAL EQUIPMENT AND OPERATION

## With Special Reference to Laundry, Kitchen and Housekeeping Problems

*Conducted by* FRANK E. CHAPMAN, Director
Mt. Sinai Hospital, Cleveland, Ohio

# NATURAL DIVISIONS OF HOSPITAL PURCHASING*

THE term purchasing, as herein used, applies alike to the expenditure for material and equipment for new hospitals and to the routine buying in established institutions. Although a certain class of articles is purchased only at the time of the erection of a new hospital, other commodities are replaced from time to time during the operation of an established hospital. Consequently, the suggested divisions of commodities are designed to apply either to the projected or the established hospital.

Probably no other field has so great a diversity of products that must be purchased. Every conceivable article used for the care and comfort of human beings, including scientific and clinical equipment and supplies, are included in the category of hospital requirements. Because of this extreme range in hospital purchasing, it is imperative to segregate the various commodities under certain groups for convenience and increased practicability in both budgeting and purchasing.

In the selection of those natural groupings under which every hospital purchase may be included, consideration must be given to a variety of factors. Accounting principles, as applied in the hospitals, must be given consideration in order to permit the separation of capital and maintenance expenditures, although this factor has but slight bearing, because such segregation can be best accomplished in the accounting department rather than in the purchasing division. The availability of departmental balances is another element that must be given consideration, but aside from these, other very definite and important factors must be weighed and judged. The generally accepted hospital conception of various commodities, the division of purchasing responsibility, the nature of the merchandise itself, whether the product is one of general use or of specialized manufacture for this particular field, trade customs and practices—all of these elements have a direct bearing on any arbitrary divisions of purchasing that may be established.

Yet such divisions, in the final analysis, must be arbitrary. There are so many borderline cases, instances where an article might be included in either of several sections with absolute justification that it is necessary to make arbitrary decisions. Consequently, even in the suggested divisions given below there will be found a certain overlapping and in some cases possible duplication, due to the nature of the merchandise or its uses.

*SIX NATURAL DIVISIONS*

*These divisions have been adopted by the American Hospital Association in the planning of its annual exposition and in the assignment of special committees whose reports are presented at the annual conference:*

*Section I.*
*Special construction materials, building equipment and supplies.*

*Section II.*
*General furnishings, equipment and supplies.*

*Section III.*
*Clinical and scientific equipment, apparatus and supplies.*

*Section IV.*
*Laundry equipment and supplies.*

*Section V.*
*Food service equipment, utensils and supplies.*

*Section VI.*
*Foods and beverages.*

In the projected hospital the suggested divisions permit a budget of probable costs to be computed through direct quotations or reference to purveyors of various commodities. Likewise these six natural divisions with the exception of the first section broadly represent groups of mercantile houses specializing in those products. Because of this fact contracts for the construction and equipment of the building can well follow these general definitions.

Likewise in the established hospitals these divisions permit of the ready classification of purchasing data, including quotations, catalogues, price cards, etc. The six divisions can also be taken as the basis of the annual budget, although it will be necessary to develop subdivisions of each of the six sections in order to facilitate accurate and intelligible budget figures.

In the more complex organizations found in the larger institutions, these divisions also represent the purchasing responsibility of various executives or groups and follow in the main the commonly accepted departmental arrangement of the institution. Because of these facts, the use of these divisions in purchasing likewise can be applied in delivery and storage, simplifying and systematizing the records and routine of these important departments.

*This preliminary article presents the results of a joint study of the subject by the executive secretary of the American Hospital Association and the staff of The Modern Hospital, a study which developed from editorial comments on the West Baden exposition.

The items included in Section I are, as a rule, covered by the so-called general contract in the building of a new hospital. In established institutions the engineers or maintenance department would cover the majority of the items. Included in this division are:

Building material, building specialties, flooring and wainscoting, screens, elevators, dumbwaiters and ash hoists, fire protection apparatus, heating and power equipment and supplies, lighting equipment and supplies, paints, varnishes and painters' supplies, plumbing equipment and supplies, signal and intercommunicating systems, ventilating and air conditioning apparatus and devices, waste disposal systems and devices, water purification systems, equipment and supplies used on hospital grounds and gardens.

As will be noted, this includes not only the building itself, but what is known as fixed equipment. Many architects include laundry equipment, sterilizing apparatus and the heavier kitchen equipment and refrigerating machinery in the heading of fixed equipment and as part of the general contract. Because of the specialized nature of such equipment, we have placed sterilizing apparatus under clinical equipment, laundry equipment in its proper section, and kitchen equipment, including refrigerating machinery, under the heading of food service equipment. As a rule hydrotherapy equipment is part of the plumbing contract, but because of its specialized nature, this has been placed under clinical equipment.

These are examples of natural conflicts that will arise from any arbitrary divisions, but which we have attempted to solve by placing disputed items under the more specialized headings, not only because of the purchasing routine for such equipment, but because such equipment is largely furnished by manufacturers and dealers specializing in the merchandise covered by the respective sections.

A distinction has likewise been drawn between floorings and floor coverings. Floorings refer to permanent types of flooring materials, such as the various composition and mastic floorings, tile, slate, and other floorings which are part of the original building. Floor coverings whether permanently fastened to the floor or removable are included in Section II. This distinction has been made largely because merchandising customs place such floor coverings as linoleums in the same category as rugs, rather than among permanent floorings such as tile and similar products. Likewise while operating room lights are a part of the general lighting system, they are specially included under clinical equipment because those concerns doing the largest business in this specialized lighting are concerns which specialize in clinical equipment and supplies.

Section II includes:

Furniture, wood and metal, (not including so-called steel hospital furniture), floor coverings, such as carpets, rugs and linoleums, curtains, shades, awnings, linens (bed and table) blankets, spreads and towels, beds, mattresses, pillows, dry goods, uniforms and other garments, office equipment, record forms, office supplies, soaps and general cleansers, cleaning equipment and janitors' supplies, paper goods, toilet supplies, disinfectants, etc.

In the equipment of the new hospital this might be termed the "department store" group as it includes those furnishings which are generally handled by the contract department of such stores. In the established hospital these products are, as a rule, included in the housekeeping department. Because of its specialized nature, steel hospital furniture has been put under the head of clinical equipment. For example a steel bedside table might be considered a part of general furnishings, yet this same table also might be employed as an instrument or anesthetists' table. In this section also are included those soaps and general cleansers employed about the institution either by the cleaning force or for toilet purposes. Soaps specially designed for laundry purposes belong under the heading of laundry soaps. Some may take issue with the inclusion of disinfectants under this heading, assuming that this would be included under drugs and pharmaceuticals.

The section devoted to clinical and scientific apparatus and supplies would probably be subdivided in the established hospital under more specialized groups such as surgical equipment, nursing supplies, pharmacy supplies, laboratory, x-ray, etc. Such subdivisions are natural and are thoroughly logical. The general heading, however, of clinical and scientific equipment, apparatus and supplies including steel hospital furniture, surgical and scientific instruments, medical, surgical and nursing supplies, sterilizing equipment, therapeutic equipment, laboratory and x-ray equipment and supplies, drugs and pharmaceuticals, ambulances, represents a distinct and separate class of merchandise both in source of supply and use in the institution.

Laundry equipment and supplies comprise the fourth division suggested and this includes not only all equipment used for washing, drying and ironing, but water softening devices, marking equipment, disinfectors and sterilizers for mattresses and bedding supplies, together with the wide range of acids, soaps, alkalis and such supplies used in laundry operations. The laundry department in the hospital is so distinct that the segregation of these items is natural.

Under food service equipment, utensils and supplies are included not only the heavy equipment in the kitchen such as ranges, steam tables, cookers, etc., but the labor-saving devices, such as power mixers and other machines, and the wide range of utensils and cutlery and other commodities essential to the preparation and service of food. Refrigerating machinery, storage equipment including special bins, shelving and drawers for food storage, tray wagons, food carts and similar equipment used in transporting and serving foods, together with dish washing equipment, form a natural part of this section.

Probably the only exception that can be drawn would be the fact that table linens, including both table cloths, napkins, tray covers and similar articles, together with paper substitutes are included under Section II rather than under Section V.

Foods and beverages form an obvious division, including all food products used in the institution, together with staple beverages such as coffee, tea and cocoa, and also those special beverages frequently employed in the care of the sick. Naturally the products in this section have no part in the planning of the new institution, but on the other hand form the principal item of expense, outside of wages, in the established hospital. In many institutions Sections V and VI are included under a single heading of dietary department. Kitchen equipment and utensils, however, form such a distinct group, both as regards source of supply and methods of purchasing, that it was thought best to separate food service equipment from foods. A further factor in this decision is the fact that Section V forms a considerable item in the cost of a new hospital, while foods are solely a problem of the established institution.

Naturally it is not to be expected that every hospital will find that the six suggested divisions will meet its established system; nevertheless, it is believed that it will be well worth the while of every hospital executive to plan both original and routine purchasing along these lines, because of the obvious convenience and efficiency in purchasing that will result.

# HOSPITAL SCREENING

By E. M. BLUESTONE, M.D., and JOSEPH TURNER, M.D., Assistant Director, Mount Sinai Hospital, New York.

THE problem of screening as applied to hospitals depends for its solution on many factors of which the most important is the extent of local sanitation in the hospital area. In certain geographic locations, especially in the tropics, hospital authorities are under a moral obligation to protect the community from the spread of diseases which are carried by the numerous disease-bearing insects. The value of screening in such locations has been amply demonstrated. In the Panama Zone the results of screening were dramatic and made the building of the Canal possible. The screening of cases of yellow fever in that region explains the interesting fact that there have been no more cases of this disease since the year 1906. With the growth of the sanitary idea, and the consequent prevention of the breeding and multiplication of insects, we may expect a corresponding decrease in the urgency and complexity of our problem. In preventive medicine the idea of the screen holds first place. The whimsical remark of Jonathan Swift reminds us that the insect carrier may stay with us (and therefore the screen) as long as big bugs have little bugs upon their backs to bite 'em.

The importance of screening hospitals is of sufficient moment in other than tropical locations to warrant consideration by hospital superintendents here. The discovery of Theobald Smith that the insect as well as the higher animal serves as a true host of the pathogenic organisms which cause disease has increased our interest in the question of screens, for we must now guard against more than the passing discomfort which is brought by these winged pests. We find ourselves obliged to protect the sick and the well against disease-carrying insects. The carrier must either be destroyed or isolated. We might in this connection paraphrase the remark of Chantemesse by saying that a hospital should think it as much of a discredit to have flies at the bedside as bugs in the bed.

## Flies Are Disease Carriers

Flies have been proved to carry the germs of typhoid fever, cholera, dysentery, and other diseases, and must therefore be denied access to the source of these bacteria if our sanitary chain is to be regarded as complete. A few, like Chapin, believe that "there is no evidence that the house fly is a factor of great moment in the dissemination of disease" but it is fair to assume, in the presence of overwhelming evidence, that the fly is a guilty party. The mosquito is no less important as a carrier of filth, disease and discomfort, and creates a more difficult mechanical problem for the hospital superintendent. Classic examples are malaria and yellow fever. Both of these diseases could be eliminated if (1) the breeding place of the stegomyia and the anopheles could be abolished, or (2) if human beings could successfully screen themselves against attack. We must take into consideration in this discussion the distance that a mosquito can fly. Thus, the anopheles will fly only 100 yards except when borne by the wind, and the culex, which is responsible for so much of our discomfort, can fly 20 miles. The nearness of potential breeding places is therefore a factor.

The screening of a hospital depends in a large measure on the sanitary habits of its neighbors as well as of its employes. To be of full value as a defense against flies, moths and mosquitoes, the screen should be kept in place, and in this regard the cooperation of all elements in the hospital is essential. The patient, doctor, nurse, attendant and casual visitor must see to it that the screen is not moved from its assigned place. To many the screen appears to be a mechanical barrier to proper natural ventilation, and here lies a real danger. The screen is often pushed out or removed altogether "to admit the air"; hospital employes, in kitchens especially, have even been known wilfully to destroy screens in order "to get more air"; and the chain of openings in the hospital buildings is not very much stronger than its weakest link. Rosenau wisely remarks that a screened house is safe only to careful and intelligent people. It might be explained to those who do not grasp the significance of the screen that its function in a manner resembles that of an asbestos curtain in a theater, and that it is a mechanical barrier to the spread of disease.

## Screen Where Material Invites Insects

The minimum requirement is that screens be placed with an eye to local and general sanitary conditions, and according to the distribution of insect-inviting material. Kitchens come first in the matter of screening and hardly less important are lavatories, dining rooms, wards, operating rooms and laundry. These should be protected as the first places that are likely to attract insects. Other open spaces require insect-tight devices, depending on local conditions. The multi-storied hospital which is coming into vogue may not require screening in its upper stories but here again local conditions will have to be the guide. In Cleveland recently it was said that the upper stories of the new nine-story City Hospital building would not have to be screened, but a guest at a local hotel reported the observation of hosts of mosquitoes under the eaves of the 12-story Statler Hotel.

It is hardly necessary to say that the screening of a hospital should be considered as part of the general esthetic problem in planning the general architecture of the building. Local structural conditions vary the type of the screen, depending on the location and contour of the opening to be screened. Wherever possible the screening of the future hospital should be planned for in the office of the architect.

## Screens Should Be Insect Proof

Generally speaking a good screen should possess the following qualifications:

1. It should be insect-proof within reasonable limits. This is accomplished by a screen frame which fits snugly into the window opening, and by a wire cloth the mesh of which is fine enough to exclude the local species of insect. For general uses Craig recommends a minimum of 11 meshes to 2 cms. Wood prescribes a No. 16 mesh for the anopheles and Rosenau has proven the necessity for a No. 18 mesh as a protection against the stegomyia. Against some insects, notably the flea which carries the bubonic plague and the louse which carries typhus, our only protection—besides the destruction of the insect—is the individual body screen which is provided by clean clothing. There are other accessory methods of keeping insects at a distance, but these will readily suggest themselves to any one who has had more than one encounter with them. In this connection it might be added that with the increase in the number of wires to the inch there is a corresponding decrease in the ventilating area. For this reason there should be no more wires than are necessary for the protec-

tion which we seek. The usual variety of copperbronze wire cloth offers a minimum objection to ventilation or to a view of the outside. A word of caution should be added against the painting of copper screens as this procedure is first of all unnecessary, and secondly, because the film of paint decreases the ventilating area by its thickness. More ventilating area is obtained by the use of the metal screen which has a narrower frame than those built of wood.

2. Screens should be weather-proof. The wire cloth should always be rust-proof, and the metal should preferably be copper-bronze or monel. Both of these forms of metal are comparatively more expensive than the ordinary iron wire which requires enameling, galvanizing or painting. Because of this treatment these iron screens present familiar drawbacks. The latter type of screen cloth is cheap only because of its initial low cost and its use is justified for temporary purposes only, or where the screen is known to be subject to such damage as will require frequent replacement. Unpainted screen frames, if constructed of iron, are liable to rust and, if constructed of wood, are liable to rot. To permit the drainage of rain water, which tends to accumulate on the window sill inside of the screen, it is wise to cut grooves in the most dependent part of the screen.

## Must Consider Cost of Upkeep

3. The screen should be so constructed as to be purchased and maintained economically. It is important to bear in mind in figuring the cost of screening a hospital: (1) the initial cost, (2) the cost of removing and storing screens which are of the removable type, and the cost of incidental breakage, (3) the amount of storage space required for the removable type of screen, (4) the cost of upkeep, rewiring, etc., (5) the cost of maintaining an adequate system of screen inspection, (6) the cost of keeping screens clean.

Even financial expediency hardly justifies the purchase of a cheap screen where the initial saving is soon lost in the cost of successive repairs. A screen is liable to damage in many ways. Wide gaps may be created in the screens by the wanton use of a pencil. Screens may be torn by accident, and in time may be expected to wear out and should therefore be easily rewired. There are very few screens made today which have to be sent to the factory for rewiring, and in most instances rewiring is readily accomplished in the hospital repair shop.

Some hospitals make it a practice to take screens down in the fall, store them over the winter, and return them to their proper places in the spring. The temporary type of screen for this reason requires the time of a certain number of employes in the handling, besides the amount of space which is required for their storage. The screen under these circumstances requires some method of identification, a detail which is easily arranged for and must be borne in mind. The handling, transportation and storage of screens subject them to the risk of considerable damage. Permanent screens which are left in place throughout the year are obviously not subject to damage from these causes. Incidentally such permanent screens often serve as a wind-break in stormy weather. The cost of removing and storing screens every season should be kept in mind when considering the initial high cost of the disappearing and permanent type of screen as compared with the removable and temporary type.

## Should Not Interfere With Hangings

4. Screens should not interfere with the hanging of awnings on the outside of the window, with curtains or other draperies on the inside, or with flower boxes on the window sill. In a consideration of the subject of screens these details are often overlooked. The placing of the screen hardware is important. Thus a screen hinged on either side that opens outward interferes with the operation of awnings and with flower boxes. Screens that are hinged at the top or side and open in interfere with the operation of shades and curtains unless it is possible or desirable to hang these on the screens proper. Such screens interfere with window draperies in any event and do not permit the free use of interior flower boxes where these are desired. Screens hinged at the top and opening outward at the bottom permit the hanging of awnings but the manipulation of the awning ropes is awkward if not impossible.

5. Screens should not interfere with the washing of windows. The disappearing, roll-up, or double-hung sliding screen offers no obstacle to the washing of windows. This point does not arise in the case of windows that are hinged on the side and open in. Where the screen is placed on the outside, any type of hinged screen will permit window washing. Single screens which are hooked at the top but not hinged have a tendency to work loose and fall when pushed outward. It is difficult to keep windows clean where screens are hung on the outside, especially during a driving rain storm when water forced through the screen spatters dirt on the window pane.

## Should Protect Where Impact Comes

6. Screens should be protected in places where they are subject to damage by impact. This applies especially to screen doors and to the lower screen sections of inclosed porches where there is no solid rail or balustrade. Protection in these cases is secured by the use of grilles of various designs, push plates, kick plates and similar mechanical contrivances.

7. Screens should be built to fit the window opening accurately. A hospital recently inspected was "fully screened," but almost everywhere there was a gap of from one to two inches between the screen frame and the brick wall which framed the window opening.

8. Screens should be workable under all conditions. If of the sliding variety screens should move freely in both directions during all kinds of weather or, if hinged, they should fit snugly but not stick in their rabbetted grooves. Metal screens are less subject to this danger from atmospheric conditions and are not likely to warp, swell or stick as happens so often with the wooden type of frame.

The growth of interest in the screen as a sanitary device has brought with it a corresponding increase in the screen-making industry. Screens of every description are on the market and each model, as is usual in such cases, has its advantages and disadvantages. Generally speaking, it is not difficult to choose an efficient screen where financial embarrassment does not influence the decision. Most screens under present hospital conditions must be purchased at a minimum of expense and for this reason wooden screens are still in the majority. Good screens can be made of wood if proper care is given to their manufacture. Thus, the kind of wood that is used is important. White pine is generally considered best for this purpose, as it has the additional quality of readily absorbing wood preservatives used in painting and staining. Other kinds of wood may of course be used, the commoner varieties being cypress, ash, and oak. Experience has proved the necessity of using wood that is air-seasoned or kiln-dried. Wooden screens have a tendency to shrink or swell under adverse weather conditions and there is also a tendency to bind or warp. Unpainted wood tends to rot

after comparatively brief use. The breaking of corners may be minimized by proper attention to the joints.

### Various Models of Screens

Screen models may be divided into four groups:

1. There is a ready-made screen on the market which has a wood or metal frame and which comes in two styles. One of these is a sliding double screen which is pulled apart horizontally to fill the window opening beneath the sash. The other is a single screen, almost the full width of the window opening, with spring ends which open and fit into the sash grooves. Both of these types are cheaply made and are not durable. They can only be used under one sash. They do not fit tightly and as a rule are not entirely insect-proof. These screens are justified for temporary use only.

2. The second type is a made-to-measure single screen covering one opening of a double hung sash. This model slides up and down in grooves or on a rail. It will permit the screening of either sash opening, the screen moving into place to the open section. It does not permit both sashes to be open at the top and bottom simultaneously and is insect-tight only on three sides.

3. The third is a made-to-measure double sliding screen which is similar in construction to the double-hung window, except that the screen instead of being hung on weights slides up and down in a groove or on a track. This type of screen can be made insect-tight and offers none of the objections mentioned above. It does not interfere with the washing of windows, with the hanging of awnings or draperies, and is generally desirable as an efficient screen which is economically installed and maintained. Another modification of this screen is one in which the screen disappears out of sight in a metal built-in recess above the window opening. The entire window opening in this model may be utilized for ventilation because the window also disappears into this recess.

4. The fourth type is a made-to-measure single screen covering the entire window opening. It may be hinged to open in or out from the side or top, or may be hung from the top on hooks. It interferes with the hanging of awnings and draperies, with flower boxes and with the washing of windows. A single screen covering the entire opening and which does away with these objections is the newly brought-out roller screen which operates in the same manner as the roller shade. When not in use the screen rolls up and disappears into a metal box at the top of the window. Sufficient tightness at the sides is secured by running the selvaged edges of the screen in metal grooves. It has not been possible thus far to make the screen wire cloth as tight in this roller screen as in the less flexible types.

We have attempted in this brief discussion to lay down what we consider the general principles involved in the screening of hospitals. The application of these principles depends upon the local conditions in which the hospital operates. The problem is not a difficult one. There are many screens on the market. The question is which to choose? To screen a hospital successfully there is required adequate equipment to begin with, and rigid discipline forever afterward.

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# PLANNING EQUIPMENT OF A HOSPITAL LAUNDRY

By WALTER T. WILLIAMS, Cincinnati, Ohio.

IN PLANNING the equipment of a hospital laundry one should make ample provision for taking care of all of the work that is to be done, and it may be well to have a little excess capacity for emergencies, but at the same time one should be very careful that in providing excess capacity he does not go beyond reasonable bounds. Neither should one go to the other extreme, and in a mistaken spirit of economy under-equip the plant, and thus cause it always to be in an overloaded condition and therefore working under a handicap.

Manufacturers of laundry machinery estimate the capacity of a machine by the number of pounds of goods it will handle in a given time; but, as a rule, goods are not weighed in a hospital laundry, and if any account is kept at all it is only as to the number of pieces handled. Thus, with the machinery man figuring in pounds and with the hospital laundry superintendent figuring in pieces, we have two different units of measurement to bring together when we try to make an estimate of the machinery that a hospital laundry will need.

The manufacturers' unit of measurement, pounds of goods, is a definite one, but the hospital's unit of measurement, pieces of goods, is not, for a "piece" may be a napkin which weighs but a small fraction of a pound or it

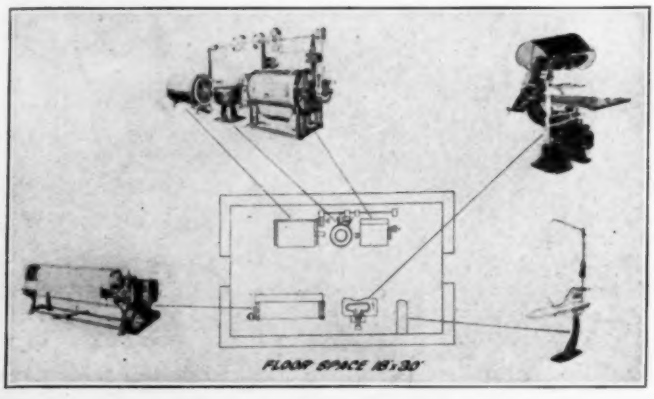



Fig. 1.
Laundry for fifty bed hospital, using ten pieces per bed per day. Floor space, 18'x30'. The equipment consists of one 36"x48" washer, wood; one 26" underdriven extractor; one 30"x42" drying tumbler; one group drive, consisting of motor and transmission, to drive these three machines; one 100" flat work ironer; one No. 38 press; one ironing board.

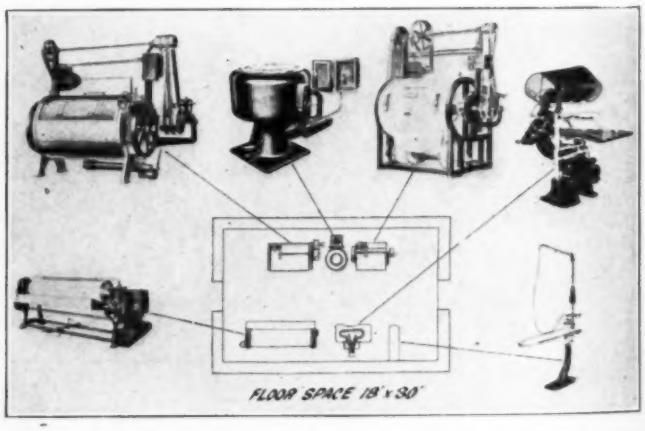



Fig. 2.
Laundry for fifty bed hospital, using ten pieces per bed per day. Floor space, 18'x30'. Each machine has a motor attached, and the equipment consists of one 36"x33" solid head washer, brass case and cylinder; one 26" underdriven extractor; one 30"x42" Junior drying tumbler; one 100" flat work ironer; one No. 38 press; one ironing board.

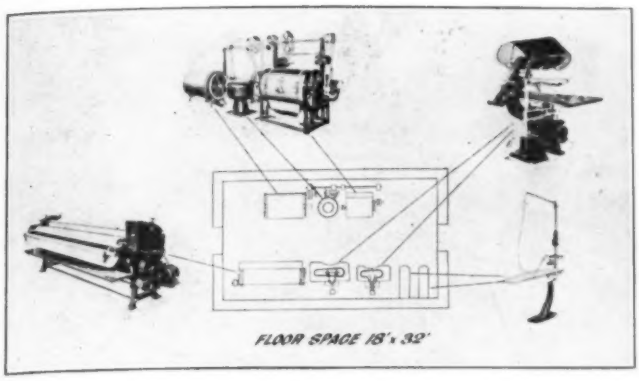



Fig. 3.

Laundry for fifty bed hospital, using fifteen pieces per bed per day. Floor space, 18'x32'. The equipment consists of one 36"x54" washer, wood; one 26" underdriven extractor; one 30"x42" drying tumbler; one group drive consisting of motor and transmission to drive these three machines; one 100" No. 41210 return apron flat work ironer; one No. 38 press; one No. 51 press; two ironing boards.

may be a sheet which weighs a pound and a half.

Even when we classify the pieces and count them it does not give an accurate basis from which to figure. For instance, some sheets may weigh twice as much as others, and it may be the same in case of napkins, towels and other articles, either because of difference in size or on account of varying weight or thickness of the goods. Hence, the best that can be done, as things now stand, is to base estimates of required equipment for a hypothetical plant on average conditions and weights.

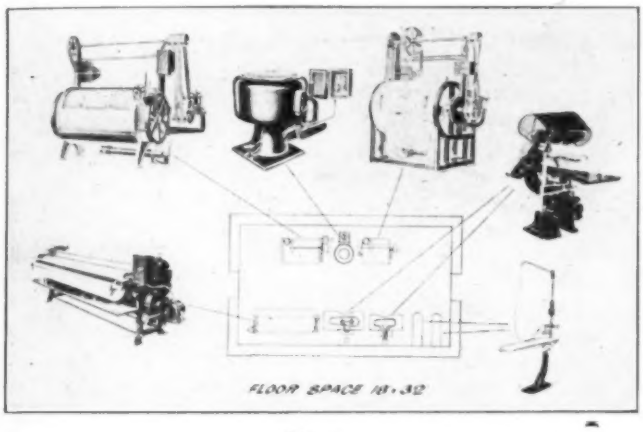



Fig. 4.

Laundry for fifty-bed hospital, using fifteen pieces per bed per day. Floor space, 18'x32'. Each machine has a motor attached, and the equipment consists of one 36"x54" solid head washer, brass case and cylinder; one 26" underdriven extractor; one 30"x42" drying tumbler; one 100" No. 41210 return apron flat work ironer; one No. 38 press; one No. 51 press; two ironing boards.

At the 1922 convention of the American Hospital Association, the American Laundry Machinery Company displayed floor plans for hypothetical laundries for hospitals, together with lists and pictures of machinery for the equipment of the respective plants, of which there were twelve. Through the courtesy of the company we are reproducing those plans herewith. They are, of course, hypothetical, meant to portray ideal installations rather than actual cases. Local conditions will make it necessary to alter machinery requirements to fit the situation.

It is assumed that in each case the hospital will make provision for a suitable location for its laundry, a place well lighted, amply ventilated, near the source of steam supply and with reasonable convenience and accessibility. It is also assumed that provision will be made for water supply and such other incidentals as may be necessary.

There are four suggestions, or tentative plans, for laundries for fifty-bed hospitals, two of these being for a hospital that uses ten pieces per bed per day and two being for a hospital that uses fifteen. The first of these plans is shown in Fig. 1, the list of machinery being under it. This is for a fifty-bed hospital, using ten pieces per bed per day. The second plan, shown in Fig. 2, is for a laundry of the same capacity, but with more expensive equipment. Because of limited funds, it may be good policy for a hospital to install the cheaper plant, but where the money is available the more expensive plant is the better to buy, because it will last longer and be more efficient.

The principal difference in the two plants rests in the fact that one has a washing machine with cylinder and

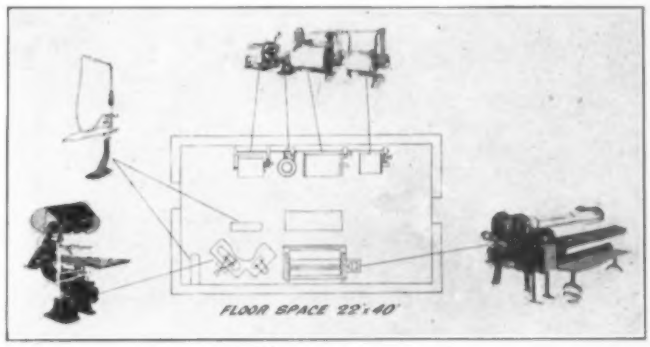



Fig. 5.

Laundry for 100 bed hospital, using ten pieces per bed per day. Floor space, 22'x40'. The equipment consists of two washers, wood, 36"x 54" and 30"x30"; one 26" underdriven extractor; one 30"x42" drying tumbler; one group drive for these four machines; one 100" two-roll return apron flat work ironer; one No. 38 and one No. 51 press; two ironing boards.

shell made of wood, while the other is made entirely of metal. The metal washer will last much longer than the one of wood, and therefore is the more economical to buy. Besides this, the metal washer is much more easily cleaned than the wood one, and hence more apt to be in a sanitary condition.

The cost of the installation shown in Fig. 1 also is reduced by having a group drive for the washer, extractor and drying tumbler, instead of having individual motor drive, as shown in Fig. 2. The washer shown in Fig. 2 is made of metal.

It may be well to explain that the frequently-used term,

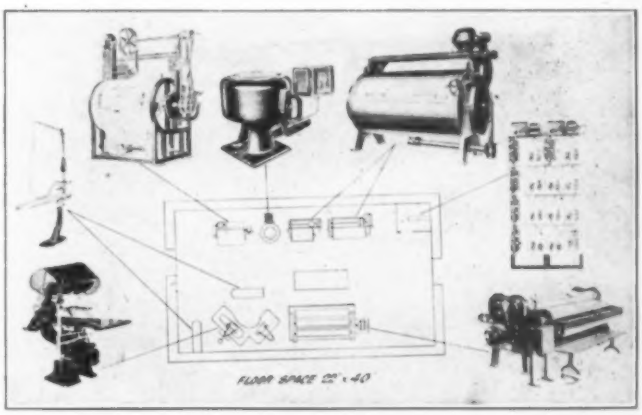



Fig. 6.

Laundry for 100 bed hospital, using ten pieces per bed per day. Floor space 22'x40'. Washers have panel control and machines have individual motors. The equipment consists of two solid head washers, brass case and cylinder, 32"x54" and 28"x33"; one 26" underdriven extractor; one panel control board; one 30"x42" drying tumbler;; one 100" two-roll return apron flat work ironer; one No. 38 and one No. 51 press; two ironing boards.

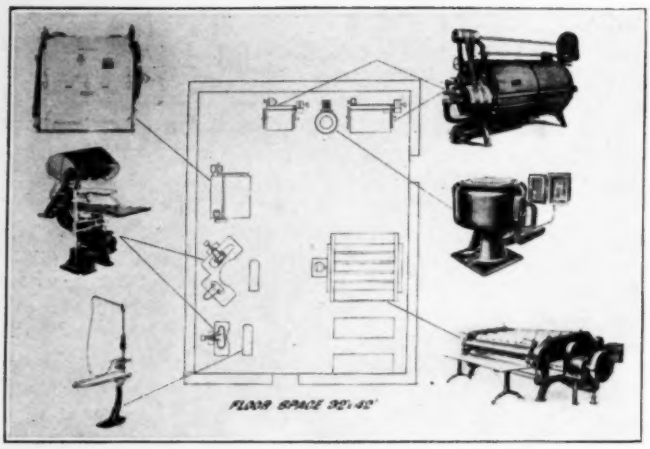



Fig. 7.
Laundry for 100 bed hospital, using fifteen pieces per bed per day. Floor space, 32'x42'. Machines have individual motors. The equipment consists of two washers, wood, 40"x64" and 36"x36"; one 30" underdriven extractor; one 40"x64" drying tumbler; one 100" No. 3115 five-roll flat work ironer; three presses, Nos. 25, 38 and 51; two ironing boards.

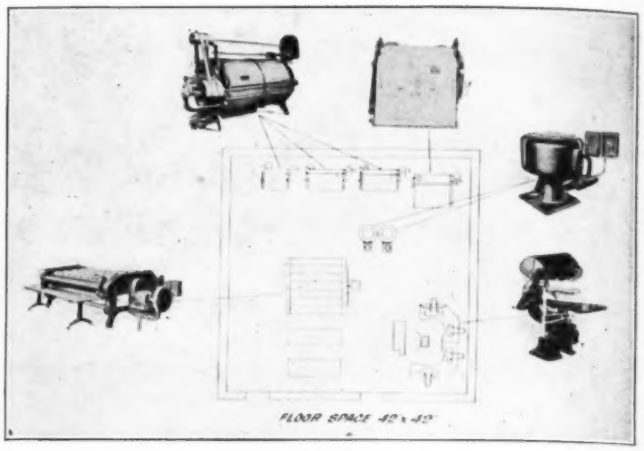



Fig. 9.
Laundry for 200 bed hospital, using ten pieces per bed per day. Floor space, 42'x42'. Machines have individual motors. The equipment consists of three washers, wood, two 36"x64" and one 36"x36"; two 26" underdriven extractors; one 100" No. 3115 five-roll flat work ironer; one 40"x64" drying tumbler; four presses, Nos. 25, 38, 35 and 51; one ironing table.

"metal washer," is not a very definite one. The cheaper metal washers are made of galvanized iron and the more expensive ones are made of brass, bronze or monel metal, a natural nickel alloy. Each of these will last longer than a wood washer, but under certain conditions a brass or bronze washer will last much longer than a galvanized iron machine while the monel metal washer will outlast them all.

It has been stated that where hard water is used the metal of a galvanized washer is protected by a coating of lime and magnesia soap which forms on it and prevents corrosion. When zero water is used, this coating does not form, and thus certain chemical reactions result. This should not be taken as an argument against zero water; it is rather an argument in favor of the brass, bronze or monel metal machine, which are not affected by water conditions.

Figs. 3 and 4 give plans for a laundry for a fifty-bed hospital that uses fifteen pieces per bed per day. This equipment is similar to that of the first two plants, with the same choice in the matter of washers and drives. All of these plants occupy approximately the same floor space.

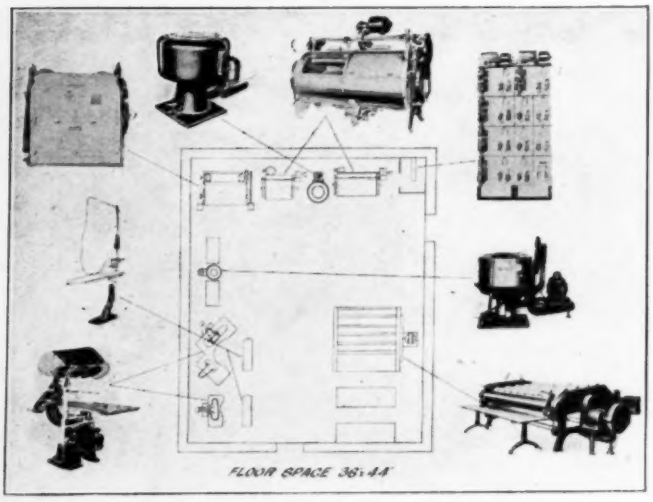



Fig. 8.
Laundry for 100 bed hospital, using fifteen pieces per bed per day. Floor space, 36"x44". Panel control and individual motors. The equipment consists of two washers, monel metal, 36"x64" and 36"x 36"; one 30" special deep underdriven extractor; one 24" starch extractor; one 40"x64" drying tumbler; one panel control board; one 100" No. 3115 five-roll flat work ironer; three presses, Nos. 25, 38 and 51; two ironing boards.

Figs. 5 and 6 give plans for a laundry for a 100-bed hospital, using ten pieces per bed per day. Figs. 7 and 8 give plans for a laundry for a hospital of the same size, but using fifteen pieces per bed per day. It will be noted that the two latter plants require but little more floor space than the two former, although the capacity of the latter plants is 50 per cent greater than that of the others.

In these plans we encounter the Prim Press, a late type of steam pressing machine, which almost eliminates hand ironing. In some plans is shown a panel control board, which reverses the motors on the washing machines; and in some plans we also find overdriven extractors very efficient and sturdy machines with a large capacity.

Figs. 9 and 10 show plans for a laundry for a 200-bed hospital, using ten pieces per bed per day. Figs. 11 and 12 give plans for a laundry for a hospital of the same size, but using fifteen pieces per bed per day. The four Prim Presses specified for each of these plants really are joined together in a manner that converts them into one compact unit, operated by two women, who are assisted by one or more hand ironers. The function of the hand ironer is to retouch those articles that require it and to fold the articles ironed on the presses.

In the plans shown in Figs. 11 and 12 a cylindrical

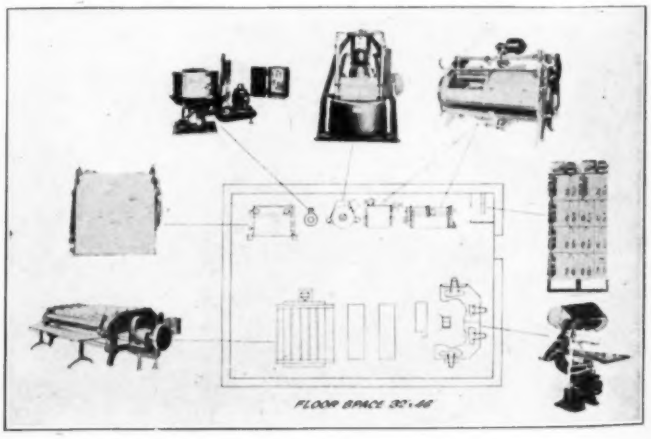



Fig. 10.
Laundry for 200 bed hospital, using ten pieces per bed per day. Floor space, 32'x46'. Panel control and individual motors. The equipment consists of two washers, monel metal, 42"x72" and 36"x36"; one 40" extractor, overdriven; one panel control board; one 40"x64" drying tumbler; one 100" No. 3115 five-roll flat work ironer; four presses, Nos. 25, 38, 35 and 51; one ironing table.

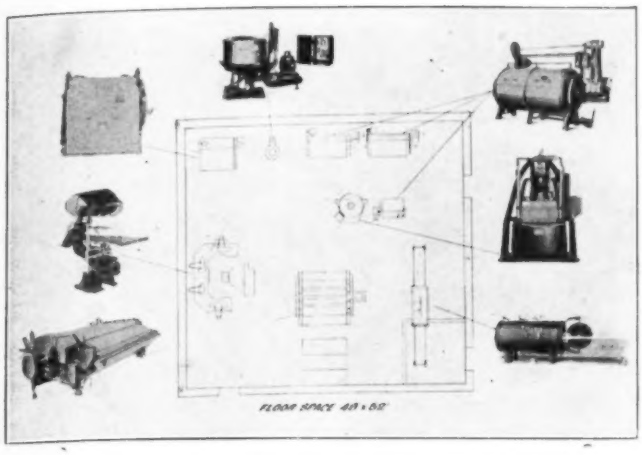


Fig. 11.
Laundry for 200 bed hospital, using fifteen pieces per bed per day. Floor space, 48'x52'. Machines have individual motors. The equipment consists of three washers, wood, two 40"x72" and one 36"x36"; one 48" extractor, overdriven; one 24" starch extractor; one 40"x64" drying tumbler; one 30"x86" cylindrical disinfector; one 100" No. 31140 four-roll extra flat work ironer; four presses, Nos. 25, 38, 35 and 51; one ironing table.

disinfector is specified, but unless contagious cases are received in the hospital this apparatus is not an absolute necessity. It is a great convenience, however, even where contagious cases are not accepted, for the device affords a means of disinfecting articles without washing them, such as mattresses, pillows, etc. Where goods come from contagious wards the articles are loaded into the disinfector from a separate room, and after the load is disinfected the pieces are discharged into the washroom. One type of sterilizer washes the goods, receiving the load from an outside room.

The plans shown include equipment for finishing all of the laundry work of the personnel, with the exception of collars. However, such additional equipment as this work would require may be added if it is found desirable to do so. It should be remembered that while these plans are based on careful investigations and broad experience, they only apply to average conditions, and therefore in exceptional cases modification will be necessary.

The starch extractor specified in some of the larger plants may be eliminated if cold starch is used in the final bath in the washer. The greater the capacity of the laundry the larger will be the cost of most of the machines. This is offset by the fact that where there is volume to keep them busy the more efficient machines more than pay for the increased expense through reducing the pay roll percentage.

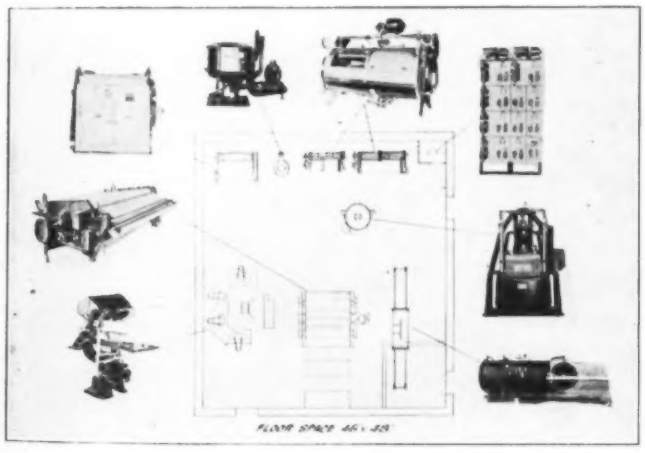
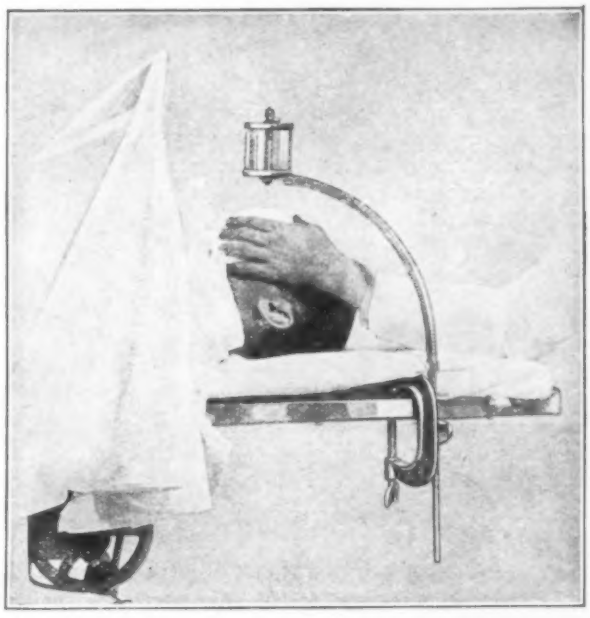


Fig. 12.
Laundry for 200 bed hospital, using fifteen pieces per bed per day. Floor space, 45'x48'. Panel control and individual motors. The equipment consists of two washers, monel metal, 42"x84" and 36"x54"; one 48" extractor, overdriven; one 24" starch extractor; one 40"x64" drying tumbler; one panel control board; one 30"x86" cylindrical disinfector; one 100" No. 31140 four-roll extra flat work ironer; four presses, Nos. 25, 38, 35 and 51; one ironing table.

## A MECHANICAL ETHER DROPPER

The administration of ether for anesthesia presents many difficulties and has been the subject of considerable study and research. The so-called open method is the more generally used, both because of its greater simplicity as well as recognized clinical advantages.

The use of a mechanical dropper is recommended, insuring as it does a perfectly smooth, even drop. Various ether droppers have been made for this purpose, but have proved only partially satisfactory. A recently devised piece of apparatus, however, seems to meet surgical requirements in every way. With this dropper narcosis can be produced without any excitement stage. The pulse and respiration remain good, the color of the patient is excellent, and the postoperative blood pressure in many cases exceeds the preoperative pressure.



Mechanical ether dropper attached to operating table

The apparatus is very simple, but is efficient when properly handled. It consists of a transparent glass cup through which runs a needle valve that regulates the drop. The cup holds one 4 ounce can of ether. This cup is suspended on a flexible arm which is fastened to a clamp, and can be attached to any operating room table with ease. The flexible arm allows the cup to be placed at any desired angle.

Some advantages of this apparatus are: it is easy to manipulate; it gives an even, steady drop on one place of the cone; it allows perfect oxygenation with smooth anesthesia; induction is readily and easily produced with it; it leaves one hand free so that the anesthetist may attend his patient with ease, and it can readily be attached to any operating table.

Genuine good taste consists in saying much in few words, in choosing among our thoughts, in having order and arrangement in what we say, and in speaking with composure.—Fenelon.

# WHAT ABOUT ELECTRIC STERILIZERS FOR THE HOSPITAL?

By WEEDEN B. UNDERWOOD, Electrical Engineer, Rochester, N. Y.

ONLY a few years ago the idea of heating a battery of sterilizers by electricity and pleasing everyone concerned, even the man who paid the bills, was in the same category as the idea of flying in a heavier-than-air machine. But we have the flying machines and they have met a certain demand perfectly. Similarly we have the electric sterilizers and when used under the right conditions, they serve most effectively.

It has taken a good deal of experimental work and some of the earlier outfits were perhaps crude and complicated, but splendid progress has been made. Electrically heated sterilizers are now available, thoroughly practicable in every sense.

The fact is not generally appreciated that there are many institutions where electrically heated sterilizers should be used, where they may be used with greater satisfaction and even at less expense than if heated by either gas or steam. In making this broad statement it is assumed that high grade, scientifically developed apparatus is being considered.

## Careful Investigation First

It is not intended to infer that all small hospitals should use electricity, but the average hospital of fifty beds or less, or possibly greater capacity, should consider electricity when it plans this branch of its equipment. It is a fact demonstrated in many hospitals all over the country that under certain conditions electricity meets the requirements better than anything else. The decision to use electric sterilizers, however, should be made only after careful investigation. Over-enthusiasm on the subject may cause unwarranted expense, such for example as the idea of producing electric power from steam in the institution's power plant, to heat sterilizers.

No exact rule can be formulated but the following paragraphs will help in a preliminary way to determine what method of heating is best adapted to given conditions.

If the hospital is large enough to maintain a power plant and has other use for pressure steam (40 to 60 lbs.) all the year round, the problem is simple. This hospital should use steam for sterilizing; it can ill afford to use anything else, for steam equipment wears well, steam heat is much more rapid than any other method and it has the great advantage that no part of any sterilizer so equipped will be injured if the operator should operate the sterilizer dry.

## Steam for Sterilizers Only Is a Luxury

But installing a steam plant for the sole purpose of heating the sterilizers usually is an expensive luxury. Any high pressure boiler should be handled only by a licensed engineer whose salary alone would be several times the cost of the electric power required for the sterilizers, even at a high rate. It also would cover any probable expense in repairs to the heating equipment. Then, too, electricity is ready for use at any time and it would not be practicable to keep up steam in the boiler more than for a few hours each day. During the remainder of the day the sterilizers are out of commission. The first cost of a battery of electrically heated sterilizers completely installed would be a good deal less than the cost of the same sterilizers steam-heated, including the boiler and accessories.

Gas-heated sterilizers are in general use and usually they function very well, but they have certain marked disadvantages. They are always more or less dirty, they keep the sterilizing room intensely hot and the air vitiated. In close quarters they are always objectionable as they detract from the ideal sanitary condition so essential in surgery. But if the nurse permits the water to evaporate or drain out when the gas is lighted, the entire sterilizer may be ruined in a few moments; certainly expensive repairs will have to be made involving delay and the sterilizer after one burnout will never look right again. Repeated burnouts will surely necessitate replacement.

Electricity has advantages over steam or gas in that it is perfectly clean and cooler. Most of the objectionable features of gas are entirely eliminated and it does its work more quickly. If you turn on gas in an empty sterilizer, you burn up the sterilizer. If you turn on the electricity in an empty sterilizer, you burn up a heater and injure your sterilizer not at all. You can replace the heater at comparatively small expense with no serious delay. All of the units on a well designed outfit are exactly alike and one or two spares may be carried in stock for emergency. Very small sterilizers are made with automatic devices which effectually prevent burnout, but such equipment applied to a large sterilizer would be much too complicated to be practical.

In deciding between gas and electricity, the first consideration should be: "Are both supplies dependable and which is more dependable?" In many towns the gas supply occasionally gives out or gets so weak that it is impossible to use it successfully at certain periods of the year. If this condition exists or is liable to exist, it will be unwise to equip for gas heating. Similarly some sources of electric power are not reliable, but this condition owing to constantly improving apparatus is becoming rare.

## Should Compare Cost and Upkeep

If both gas and electricity are available dependably and at fair rates, one must weigh the advantages of electricity over gas and consider the first cost and the cost of operation and upkeep.

The first cost of the electric outfit installed will be possibly 10 to 20 per cent higher than for a similar gas outfit and the cost of operation will usually be 25 to 50 per cent higher for electricity than gas. With careful handling the upkeep should be about the same for either method. This estimate would seem to indicate that electricity is too expensive to be considered, but one must remember the features of cleanliness, actual and apparent, the greater speed in working and the fact that burnouts will leave the electric sterilizer unharmed while burnouts will ruin the gas sterilizer.

The actual cost of running an electric sterilizer may be accurately predetermined from test data. Of course such figures can not take into consideration careless work or needless use of power; they would be based upon the exact requirements for sterilization under specified conditions, such as the use of filling water at a given temperature and starting with a certain quantity of water. The watt-hour consumption of power can be closely estimated per sterilization for each type of sterilizer. By estimating

the number of times each sterilizer will be used per month, the total power consumption can be shown. For example, a certain hospital of forty beds capacity estimates that one month's work will be about as follows:

Instrument sterilizer, in use 75 times.
Utensil sterilizer, in use 50 times.
One tank of water sterilizer, in use 30 times.
Dressing sterilizer, in use 30 times.

For this amount of use and assuming that the sterilizers will be filled with water at 150 degrees F., the total power consumption would be 460 K.W. hours and at an average rate of 3c, the bill for the month would be $13.80.

### Should Consult Local Power Company

If a hospital anticipates the purchase of electrically heated sterilizers it will do well to submit all details of requirements to some reliable manufacturer and obtain from him specifications covering the electric power and piping requirements. This data should be taken up with the local power company to determine what is necessary in the way of wiring and what voltage it is most desirable to use. Usually it is best to operate at 220 volts.

As is the case with all competitive lines, some electric sterilizers are better than others. In fact some outfits are not even good. Unless the manufacturer has had much experience, has actually developed what he has to offer, his apparatus will likely be more or less in the experimental stage. There are certain definite points which are very important and which should be investigated before purchasing.

The sterilizers should be furnished complete with every operating valve, fitting and switch necessary for the perfect control of each sterilizer independently of the others. Each sterilizer should have at least three heats. All heaters should be perfectly and easily interchangeable from one sterilizer to another, and in no case should they be built into or attached to the sterilizer so that a burnout might injure the sterilizer itself by overheating it. The idea of making the heaters all alike and perfectly interchangeable permits carrying one or two spares in stock which can be used immediately on any sterilizer in case of accident, and it greatly simplifies the work of changing heaters. All parts of the electrical apparatus including the control should conform to the standards of the national underwriters.

The buyer should insist that the manufacturer provide complete specifications and sketches showing that the apparatus will fit the space the hospital has for it, and locating the piping and wiring outlets definitely. Then when the apparatus arrives, the same care and intelligent attention should be given it that would be given to a fine automobile, and if the hospital has been wise in its selection it will have every reason for pride in its equipment.

# CLINICAL PHOTOGRAPHY

THE value of photography as a means of clinical record can not be overstated. Its growing application each year to the problems of diagnosis and treatment is abundant evidence of the importance it has come to assume in the modern medical world.

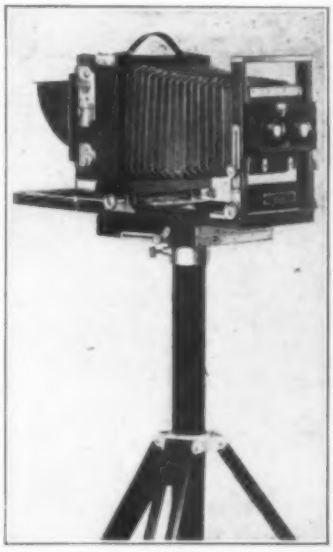
The clinical camera outfit in action

Reasons are obvious. The photograph gives a permanent visual record of conditions as they exist at the time and, because this condition is visualized, little written explanation is needed for interpretation. Surface lesions, abnormalities, pathological specimens, operating technique, for example, all lend themselves readily to such photographic record and interpretation.

The medico-legal aspects of such records also add immeasurably to their value. Many a legal battle might have been settled and many an expensive law suit saved by the photographic record of conditions as they existed prior, say to an operation or a series of treatments. The average layman who sits in the jury box may not understand medical terms, but he can understand the truth-telling photograph and judge intelligently.

### Psychic Value of Photographic Record

Then there is the psychic value of the photographic record. The anxious patient or the still more anxious parent of an afflicted child may, if the record the physician or hospital is able to show of similar or worse conditions and the contrasting record of relief wrought by treatment or operation, see hope where no hope had been seen before.



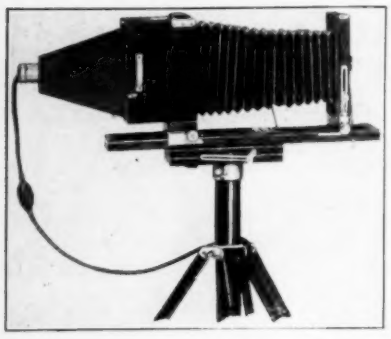
Clinical camera fitted with two lenses for stereoscopic work

These uses might be multiplied indefinitely. It was only logical that a commercial firm, which has done much for the development of photography in general and for the advancement of photographic research, should have turned its attention to this special field of "diagnostic

Camera for lantern slide making

evidence." As a matter of fact this company established, some time ago, a medical division to meet according to its own announcement at the time, "the growing requirements of the medical profession for technical data and specialized service." This division which took over and continued the work inaugurated by its x-ray department extended its activities further into the realm of clinical photography.

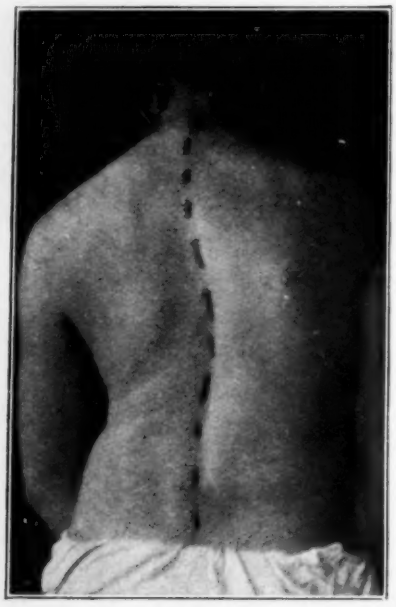
Working in close cooperation with the splendidly equipped research laboratories of the company, it has been, on the one hand, in position to study the particular needs of the medical world and on the other to assist in the development of photographic equipment best suited to those needs.



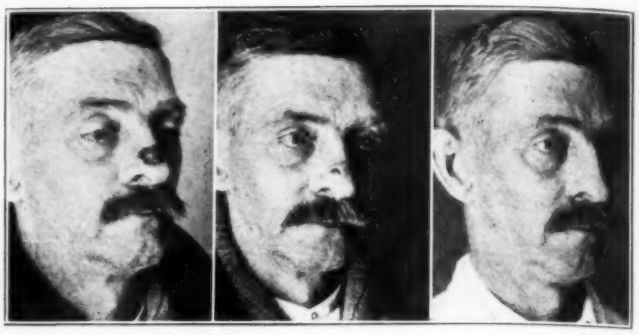
Camera ready for enlarging

The result to clinical photography has been the development of a complete clinical camera outfit which precisely fits the need of the diagnostician whether for hospitals or in private use.

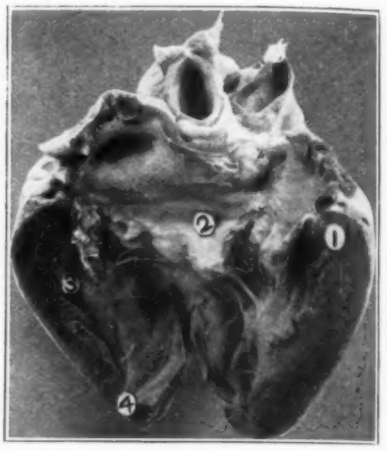
This outfit consists of a specially designed camera (size 5x7) with anastigmat lens f.7.7, Kodamatic shutter, collapsible focusing hood, plate or cut film holder, lantern slide back—for making slides to use in connection with lectures, etc.—an enlarging back, a collapsible stand with tilting top and two floodlights. This shutter has seven speeds from 1/500 to ½ second, as well as time and bulb action. The camera bed is scaled to permit setting the camera for images one-eighth, one-quarter, one-half or the full size of the subject. This feature enables the operator to obtain at intervals exposures of exactly the same size. For purposes of proper comparison this is highly desirable.



Photograph showing curvature of spine.



Another feature of the equipment the convenience of which will be appreciated is the tilting top, which permits subjects to be photographed in any position—lying, sitting or standing—with equal facility. This feature also permits making exposures from many different angles, while the adjustable stand gives a wide range of heights. The floodlights, which require 500 watt Mogul base lamps, is an essential unit in the outfit, its even light permitting standardized exposures.



Gross specimen heart

The illustrations evidence both the practicability of the outfit and the photographic quality of the results.

## CONGRESS TO ACT ON PUBLIC HEALTH

Congress is to be asked to create a new national Department of Public Welfare, headed by a secretary who will have a portfolio in the president's cabinet. The joint committee on reorganization of the government appointed from both houses two years ago will submit a report asking for the creation of this department.

Brig. Gen. C. E. Sawyer, acting as President Harding's representative, explained to the conference of physicians in Washington recently that the new department would concentrate all of the nation's educational and public health activities under the direction of a secretary. An assistant secretary will have jurisdiction of the director generals of the four sub-divisions to be called the Bureau of Veterans, Bureau of Health, Bureau of Social Service and Bureau of Education which will divide the work of the department.

Gen. Sawyer took up in detail the work of the bureau of health through which it is hoped the United States will soon have the best public health service in the world. The Bureau of Health would assume the duties now carried on by the United States Public Health Service and expand its operations to include the 40 medical divisions of the government engaged in public health work.

Gen. Sawyer in talking to the conference said, "We are assured by all concerned in the reorganization plans of the government that they are agreeable to the carrying out of an idea which will promote the interests of medicine and make it possible to develop a public health system superior to any of the nations of the world.

# MEDICAL PHOTOGRAPHY AT ST. CATHERINE'S HOSPITAL, BROOKLYN

By CHARLES A. GORDON, M.D., F.A.C.S. and WILLIAM C. MEAGHER, M.D., Brooklyn, N. Y.

MEDICAL photography is fast coming into its own. Everywhere today the photograph is mentioned as an admirable addition to the case record. Few will say it is not worth while, and no one can doubt its exact value in the permanent record of the patient.

A clear and accurate photograph of the physical appearance of the patient or the lesion is worth pages of descriptive narrative. The patient will appreciate that if he ever seeks re-admission.

For the doctor, photography is a scientific joy, for does it not mean pictures for his contributions to medical literature, and lantern slides for his lectures?

## Stimulates Clinical Activity

No longer need it be said that vast amounts of clinical and pathological material pass through the great hospitals scientifically unnoticed and unrecorded. The photographic record will stimulate the clinical activity of the staff and be a factor for good in progressive medical education. This same record may at any time acquire a legal importance which needs but to be mentioned in passing.

Medical staffs with university affiliations, the great clinics, and a few individuals have for a long time realized the value of a good picture. For most hospitals and most medical men the photograph is, in the abstract, an excellent thing, needing no argument in its favor, but it is too hard to get. Ordinary photographers are unable to do the work, since they can have no proper appreciation of what the picture should show; for patients their work may be fair, but before specimens or lesions they are helpless. Even expert instructors in the commercial field admit their helplessness before the medical problem.

Photographs are worse than useless if they fail to show the whole truth. The sin of omission is the commonest fault of an otherwise good medical picture. The negative may be good, yet it may completely fail in its mission. Contour may be the important consideration in one negative; relief or outline or size or color changes in another. The best camera will take poor medical pictures unless the photographer has a definite idea of values.

## Doctor Should Start the Work

In the average hospital for a time at least, the photographer must for successful work be a doctor. Standardization of technique and careful coaching of a technician will eventually give satisfactory results without more than medical supervision, but a proper organization of the photographic laboratory can only be effected by an enthusiast on the staff of the hospital. All hospitals have essentially the same problem; a few have a different solution.

At St. Catherine's Hospital, Brooklyn, we have a large general hospital with a vast amount of clinical material, a wide-awake staff and a generous and progressive board of managers. We had no photography. When one of our surgeons told our sister-superintendent that we needed a camera, it was quickly purchased. We were happy; we thought we had photography.

Our department of roentgenology, understaffed and overworked, was unable to do anything more. Our young men could not be interested, for the new field promised nothing but hard work and long hours. A few pictures were taken by volunteers. Interest waned and the camera was forgotten for about two years. The department of obstetrics and gynecology then took some pictures, made lantern slides and arranged an exhibition for the vice president of the board of managers, who at once became keenly interested and promised enthusiastic support.

Organization of the new department of photography was effected by the department of obstetrics and gynecology, which was well fitted for the task, as it was single-headed and well-staffed. An assistant in this department was detailed for special work in photography, and the photographic laboratory opened for work in the spring of 1921.

## Of Value for Teaching Purposes

In the last year we have made great progress. Our assistant obstetrician-gynecologist, Dr. William C. Meagher, is now an expert photographer; our laboratory is thoroughly equipped; taking and making the picture is a standardized procedure; pictures are taken without charge for every member of the staff. We are making all our own lantern slides. This has been very valuable for those men who are interested in the teaching side of hospital work. At a meeting of the Brooklyn Gynecological Society an exhibition of photography from St. Catherine's Hospital was well received. At a recent staff conference, a lantern slide report of the activities of the department of photography was presented to the staff.

What the future holds in store for us no one knows. Eventually, of course, reorganization must take place, for the work will grow all out of bounds. Perhaps a department of roentgenology and photography will meet the situation. At any rate it has won a place for itself in our hospital world.

We wish to acknowledge our indebtedness to Dr. Nathan T. Beers of the Brooklyn Hospital for repeated advice and invaluable suggestions; without his aid we would still be getting started. We wish to thank Mr. Flansberg of the Eastman Kodak Company, who gave much of his time in lessons on printing and developing.

There is nothing hard or impossible about medical photography. As in other fields of medical endeavor the prescription for success is "enthusiasm and industry."

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Cotton Mather used to say there was a gentleman mentioned in the nineteenth chapter of Acts, to whom he was more deeply indebted than almost any other person. And that was the town clerk of Ephesus, whose counsel was to do nothing rashly. Upon any proposal of consequence it was usual with him to say, "Let us first consult with the town clerk of Ephesus." What mischief, trouble, and sorrow would be avoided in the world were the people more in the habit of consulting this gentleman.

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Give us to awake with smiles, give us to labor smiling. As the sun returns in the east, so let our patience be renewed with dawn; as the sun lightens the world, so let our loving kindness make bright this house of our habitation.—R. L. Stevenson.

# MODERN HOSPITAL ILLUMINATION

By ALFRED J. HIXON, President, Hixon Electric Company, Boston.*

THE laws of illumination are not different in hospitals, than elsewhere. There are certain specific conditions found in hospitals, which have to be met by special applications, and in so far as these are found exclusively in hospitals they might possibly be called hospital illumination. However, hospital illumination is no different from other artificial illumination and the best results will be accomplished in every case by a thorough understanding and practical application of the more ordinary conditions and limitations governing lighting.

Illumination is an exact science. The reason for making this statement is that it is many times looked upon as a "hit or miss" matter, and invariably to the detriment of the results.

## Need Proper Equipment Properly Installed

The natural laws which apply to illumination, if not fairly thoroughly understood and not properly applied, will defeat any attempt at good lighting. To illustrate, the proper illuminant and proper fixture improperly placed with relation to the area to be illuminated are just as ineffective in the result as would be the installing of an improper illuminant or improper fixture and, by the same token, the improper use of reflectors or glassware may defeat an otherwise wholly effective scheme of lighting. It is therefore desirable that in the arrangement of the artificial illumination, first, proper equipment be adopted and, second, that it be properly installed, the object of the comprehensive plan being, maximum amount of useful illumination for the minimum expense, proper consideration to upkeep and operation being given.

The importance of systematic wiring is especially to be noted. By systematic wiring is meant a consideration of the proper installation subdivided with a view of maintaining good regulation and sufficient flexibility to enable changes to be made from time to time, without impairing either the efficiency or the safety of the system. Curtailment of outlets and curtailment of switches for the proper control of lights is invariably expensive in the long run and many times defeats the illuminating system, either from a distribution standpoint or by excessive loss caused from overloading. Wiring is a matter which should only be considered by an engineer, since it is a highly technical problem, not possible of solution by laymen.

It should be emphasized that low first cost does not necessarily imply efficiency; the question of efficiency hinging upon the combination of first cost plus operating expense and upkeep, always measured in terms of useful lighting.

## Modern Lamps in Old Fixtures Are Bad

A source of more trouble in existing systems than any other is the disposition on most people's part to perpetuate an existing system, though the same is admittedly in error, the practice dating back to the advent of the incandescent lamp, of substituting one form of illumination for another without due consideration for the improved characteristics of the new illuminant. In the earlier forms of the incandescent lamp this was not so pronounced, but since the advent of the tungsten lamp with its greatly improved efficiency this has become a very serious error. Putting modern lamps in antiquated lighting fixtures and expecting good modern lighting from them, is a fallacy too evident to need more than passing comment. The practice of installing larger lamps in fixtures than the fixtures are designed for, with a view of obtaining greater intensity and better illumination, is equally fallacious.

Great improvement has been made in the type and efficiency of the modern incandescent lamp, and this has made possible the entire revision of our ideas and practices with regard to artificial illumination. The early incandescent lamp had an efficiency of approximately four watts per candle power. The modern so-called Type "C" incandescent lamp has an efficiency of approximately .75 of a watt per candle power, which is something over five times as efficient as the original lamp. This, combined with the constantly lowering cost of electricity, especially where bought at wholesale rates, brings the quantity of illumination available at reasonable expense to a point where we have abandoned the idea of specifically lighting certain objects or comparatively small areas, turning to general illumination meaning, filling the area lighted full of light, so that almost any ordinary process may be carried on anywhere in the area without particular regard to the location of the illuminant. This radical change in the approach to artificial lighting has necessitated radical revisions in the ways of measuring illumination and has caused the abandonment of the old candle power ratings and the adoption of the rating of all lamps on the basis of the current consumed and measuring the efficiency of all artificial illumination on the basis of its intensity, or in other words, in foot candles per given area.

## Illumination Must Not Be "Conspicuous"

All illumination is measured by comparison, but the human eye should not be used in making this comparison. The human eye is not a good photometer or foot-candle meter; it possesses a high degree of what is known as accommodation, and a large majority of all our so-called eye-strain produced by illumination is produced by this same property of accommodation on the part of the eye. This is due to one of the most common faults in illumination, namely, too great a contrast or too great a degree of difference in light intensity occurring within a comparatively small area or what might be more properly termed, the working area of the eye.

This may be caused either by too brilliant an illuminant, improperly placed, or by the use of the wrong type of equipment such as shades and reflectors. We should strive to avoid marked contrasts in illumination and to obtain the most perfect distribution possible.

An eminent authority on illumination, when recently asked what his definition was of a perfect lighting fixture, stated "that it was a fixture which furnished proper illumination without being unduly conspicuous," or, in other words, furnished the illumination without so great a degree of intrinsic brilliancy as to make itself objectionable. This is the object sought by most of our modern lighting engineers, and most of the modern illuminating units that are worthy of consideration embody these features in a more or less successful manner; it therefore remains for the engineer to give due consideration to the nature of the area to be illuminated and the use to which

*A paper read at the last meeting of the New England Hospital Association and first published in the Boston Medical and Surgical Journal.

this area is to be put, to select and install the proper lighting.

### Should Be Measured by Foot Candle Meter

All artificial illumination should be measured in foot candles of useful light at the working plane and not in fixture ratings, and all fixtures and equipment should be purchased rather with the thought of economy of operation than economy of first cost, since cheap glass-ware may defeat a lighting system to such an extent that the original cost of the fixtures may be consumed many times in the coal pile and thereby prove very expensive.

For the purpose of measuring foot candles of useful light in any given area, which, really in the last analysis, is the measuring of the value received for the money spent, there is a little instrument known as the foot candle meter, which is one of our more modern products and can be recommended for its simplicity, its accuracy and its freedom from any technicalities. It can be used by anyone without the slightest technical knowledge and with the most effective results. Every institution which considers its running expense and wishes to enhance its lighting efficiency should own one of these little instruments, and the executives of the institution should satisfy themselves by its use, that they are getting what is best for them in the way of artificial illumination. General and intelligent use of this instrument, combined with the little expert advice as to improving methods and equipment, will effect a marked saving in 90 per cent of the hospitals of this country.

### Cardinal Points in Illumination

To sum up the foregoing brief résumé of what might be called the cardinal points of artificial illumination:

1. Lighting is an exact science.
2. Efficient lighting requires coördination of equipment, lamps, fixtures and wiring.
3. Modern lighting is done largely by general illumination.
4. The two prime factors to be considered in lighting any given area are intrinsic brilliancy of the illuminant and equal distribution in the area illuminated.
5. Measure artificial illumination in terms of useful light rather than in fixtures or lamp ratings.

In the illumination of the sick-room, whether it be the open ward or the private room, up to a certain hour in the evening when the patients are supposed to go to sleep, we should closely simulate the home under normal conditions. This should be a cheerful illumination which requires a brilliancy of from three to five foot candles. It is essential that this illumination should be by means of a type of illuminant in which the intrinsic brilliancy, or contrast, should be very low owing to the fact that the patient is in a reclining position and therefore forced to face the general direction of illumination. This fact does not justify the placing of the illumination in abnormal positions such as from the floor, but merely means that the illumination must be sufficiently distributed to avoid high brilliancy or marked contrast.

After the hour in the evening when the principal illumination is extinguished and the patients are supposed to go to sleep, the rooms must be provided with sufficient lighting to enable the nurse to make her rounds without inconvenience or undue disturbance. This illumination must not be sufficient to wake the sleeping patients and should not exceed one half of one foot candle. Since unusual lights have a marked effect in waking the patients, it is found desirable to have this second source of illumination in the same location as the principal illumination for the room, this also giving the desired distribution.

Bedside lamps of normal brilliancy, no matter how shaded or hooded, do not serve the required purpose because of two very prominent reasons: They will not sufficiently illuminate the room to give the nurse convenient freedom of action; and they produce the contrast that should be avoided. Lights in the floor and other unusual places are not successful as long as they do not provide two intensities of illumination.

### A Fallacy in Operating Room Lighting

A special application of great importance in a hospital is the illumination of the operating-room. The large majority of forms of illumination commonly used center the light upon the object. This is wrong. The problem in the operating-room is the same problem it is elsewhere, namely, filling the area full of useful light, so uniformly distributed that the eye will not be called upon to accommodate unduly, and the hand and the instrument will not cast prohibitive shadows. This can be accomplished merely by installing a suitable type and arrangement of ceiling fixtures, taking into consideration the necessity for a much higher degree of intensity and better distribution of illumination than is required elsewhere, from 25 to 50 foot candles over the entire working area.

There are other minor special applications for hospital illumination, but the two pointed out are the principal deviations which might be directly termed hospital illumination. In the remainder of the hospital, the same rules for good lighting should be applied as are applied in an office building, bank, factory or any other place where the people are doing more or less confining work and should be applied to the types of utility that are found in the various parts of the institution. The question as to proper amount or degree of illumination is, to some extent, fairly well established, such as where clerical work is being done the light on the lighting plane should have an intensity of from five to eight foot candles. In dining-rooms, kitchens and other places where the work is less confining this illumination can be cut down to four or five foot candles.

It is well, as a general principle, to avoid so far as possible specific lighting such as reading lamps, desk lamps or lamps directly over machines or tables, general illumination being much safer and much better for the person doing the work, as well as producing much better work.

### Improper Fixtures Absorb Light

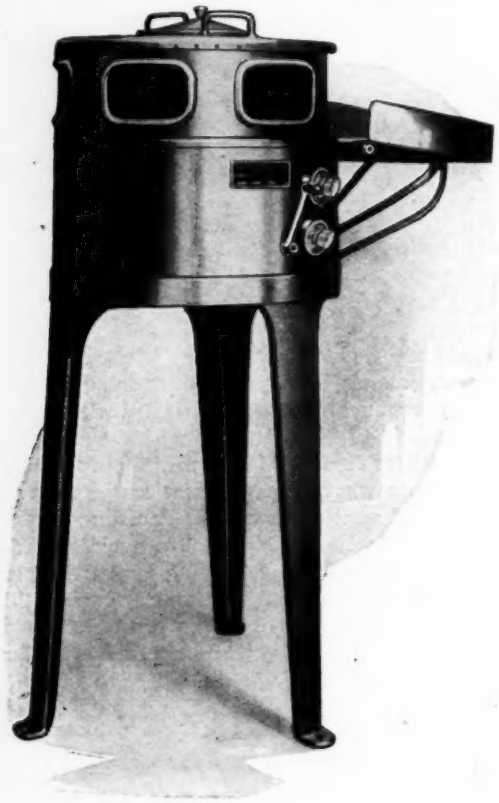
Electric lighting fixtures have been made a subject of special consideration for hospitals to such an extent that it has produced in the minds of many people the idea that there is something different about hospital lighting and hospital fixtures than about the ordinary commercial lighting and commercial fixtures. This, is an error, or at least a misconception. There exists the necessity in hospitals of having everything free from dirt and, to accomplish this end, easily cleanable. All electric fixtures, whether in hospitals or elsewhere, should be of such rugged and substantial construction that they will be fairly free from unreasonable depreciation. In the attempt, however, to accomplish these two very practical requirements, nothing should be done which defeats or interferes with the principles of lighting. A good illustration of this point is the use of clear cover-glasses; the assumption on the part of most people is that this does not interfere with the lighting. It would probably be considerable of a shock to many of you to know that as high as 25 per cent of the light is in some cases absorbed by this cover-glass, where the glass is of cheap or inefficient make. Similar conditions and failures of equipment due to one misconception or another could be pointed out indefinitely, but this will serve to illustrate my point.

## STERILIZING DRINKING GLASSES

With the great improvement in dish and glass washing methods and equipment, hospital administrators have come to regard the proper cleansing and even the sterilization of both dishes and glasses as an essential in the food service of their institution. Much of the equipment, however, has to do primarily with the washing of utensils, with the addition, perhaps of steam sterilization.

Recently there has been introduced, a new machine designed solely for the proper cleansing, and the sterilization of drinking glasses. Such equipment should have a place not only in public eating and refreshment places but in institutions. Particular value attaches to the suggested method for use in contagious disease wards or pavilions.

This new electric sterilizer, recently marketed, provides an automatic means of washing, rinsing and sterilizing glasses and other small utensils. The glasses are con-



veyed in a circular motion, first to a spray of cold water to remove all surplus refuse, then to a hot alkali wash which accomplishes the cleansing, from there to another cold rinse to wash away the excess alkali, then through a sterilizing solution which instantly kills all bacteria; this is followed by a hot water rinse which assists the drying.

The machine is automatic in every detail; the hot water is heated by electricity; no additional equipment is required and it has a capacity of 700 glasses per hour. Glasses are rarely broken during the cleaning and sterilizing process, it is said. Dirty rinse water is automatically carried away after the glasses pass through and is not used a second time.

Manufacturers of this equipment after considerable experimentation found that the best sterilizing solution was sodium hypochlorite containing 0.05 per cent chlorine, the alkalinity of which has been reduced to a certain definite point by the addition of hydrochloric acid. This solution is cheap, easily made, non-poisonous and works effectively at a temperature of 80° to 95° F.

It is to be noted that the sterilizing solution follows an alkaline wash, this being a special solution of great cleansing value. Under ordinary conditions the ordinary washing process is sufficient, but for institutional use the sterilizing feature is added, giving complete assurance, according to the manufacturers, that all bacteria have been destroyed.

Drinking glasses have long been recognized as dangerous infection carriers, and this simple but practical method of washing and sterilizing should prove important for hospital use.

## AN EFFECTIVE FOOT WARMER

Almost everyone can recall the days when soapstones were heated at an open fire and then carefully placed as a bed or foot warmer.

An enterprising manufacturer, however, has modernized this old method. An effective electric heating element has been inserted into an ordinary soapstone and provided with proper plug connections. Within a few minutes after the electricity is connected the soapstone is thoroughly heated and because of its peculiar qualities it will stay hot for a considerable period.

This simple method offers many advantages as a bed or foot warmer over the rubber or earthenware hot water containers and is preferred by many to electric heating pads.

## SERVING HOT CHOCOLATE IN THE DIET KITCHEN

Hot chocolate is much used in hospitals as a meal-time beverage, but even more frequently it is used for between-meal feedings. However, it is a difficult matter to prepare hot chocolate that is fairly uniform and palatable. While in many institutions powdered chocolate or cocoa is employed, to which is merely added hot water or milk, a more desirable way is to use a chocolate syrup, pour milk over this and stir both together. This method, however, is slow, costly and not altogether satisfactory.

Numerous devices for the preparation of hot chocolate have been offered, including special urns equipped with an agitator or mixing attachment. In most of these methods the thick chocolate settles to the bottom of the urn and either clogs up the faucet so the liquid cannot flow or fails to give a uniform strength to each cup.

The distinctive feature of a new hot chocolate urn is that every cup of chocolate served contains the correct mixture of chocolate and milk without guesswork, and without any mechanical agitating mechanism. The operation is simplicity itself, insuring speedy operation and better service, without waste. The urn contains too sections, one for chocolate and one for milk, as shown in the phan-

# *Are Dentists Authorities?*

***Prinz***

In Dental Cosmos, 1921, Vol. 63, and in his Dental Materia Medica and Therapeutic, 1916, specifies properties desirable in dentifrice as follows:

1. *Chalk:* mechanical cleansing
2. *Soap:* as an emulsifier
3. Mildly alkaline

***Fones***

In Mouth Hygiene—Second Edition, 1921, page 287: *"The most important ingredient* in a dentifrice is *soap.* Next. a mild abrasive, such as a fine grade of precipitated *chalk."*

***Buckley***

Modern Dental Materia Medica, Pharmacology & Therapeutics—Fourth Edition, page 32. Page 270 shows formulas of dentifrices, and *chalk* and *soap* are constituents of each one of them. On pages 36 and 37, the same book speaks of the excellence of chalk as a constituent of dentifrices.

***Toothpaste "Ad" (NOT Colgate's)***

"Dental authorities (sic) now agree that the ideal dentifrice should contain no soaps or other alkaline ingredients"!

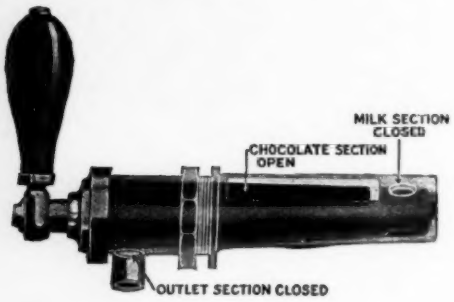
*Who is Right?*

***More* DENTISTS *recommend* Colgate's *than any other dentifrice***

The non-gritty precipitated Chalk in Colgate's Ribbon Dental Cream loosens clinging particles from the enamel. Its pure vegetable oil soap washes them away

Truth in advertising implies honesty in manufacture

tom view herewith. The faucet fills with chocolate, holding just enough syrup to make a perfect cup. When the handle is turned, the chocolate section of the faucet




closes and the milk flushes through the faucet into the cup. Thus the entire operation is handled in one unit at one time. When the handle is turned back the faucet fills with chocolate again and is ready for the next cup to be served. A day's supply of chocolate syrup and milk can be kept in the urn at one time.

In appearance, the hot chocolate urn does not differ greatly from others. The outside body is constructed of victory silver; the inside body of copper tinned or monel metal. The water jacket between the two bodies is equipped with a water outlet faucet. The urn is manufactured in 5, 10, 20 and 40 quart sizes, for gas, steam or electricity.

## MARTING CATGUT SERVICE OUTFIT

To meet the requirements of operating room procedure a special outfit has been devised to serve the surgeon with catgut as may be needed.

It consists of a series of jars for plain, ten-day and twenty-day catgut. Catgut is now supplied sterile by all makers and should not be reboiled unless specified, but all tubes should be placed in an antiseptic solution for sterilizing the outside of the tubes before breaking.

The rack on the inside of the jar has wire spring holders for the tubes to keep them immersed. The jars are marked "Plain," "10-day" or "20-day." In this way the nurse can

find the particular catgut wanted quickly and is able to see at a glance exactly the quantity of sutures on hand.

A pair of nickel-plated forceps for taking the sterile tubes out of the antiseptic solution is also supplied. The catgut tubes are then placed in a sterilized nickel-plated catgut tube breaker which consists of two metal tubes connected with a chain.

This outfit has been found a valuable hospital convenience.

## COMBINED BEDSIDE AND UTILITY TABLE

One of the progressive manufacturers of hospital furniture lately has brought out a new combination bedside and utility table which should interest hospital executives. Through the use of this table the necessity of an adjustable bedside table for serving is removed.

The combined table consists of an ordinary type of utility table containing cupboard space in base for towels, and sundry items, a roomy drawer and a swinging wash basin which is concealed when not in use by means of a door.

The outstanding feature, however, is the folding bed tray or table. This is attached to the back of the cabinet or table by means of sliding brackets so as to be adjustable to a bed of any height, thus permitting its use for food service. This bed tray or adjustable shelf also is hinged so that it can be folded flat against the table when not in use.

The table is equipped with easy running casters, permitting the nurse to swing it readily into position so that the folding table or shelf projects over the patients beds.

This combined utility and bedside table is being used in the new John B. Murphy Hospital in Chicago.

## TWO LONDON HOSPITALS UNITE

The plan adopted between Middlesex and St. Luke's Hospital in London is stated to be the first instance in England of an alliance between a large general hospital and a registered hospital for mental diseases. By cooperation in respect of funds, material, personnel and experience in management the two hospitals are expected to attain the ideal in the treatment of early mental and functional nervous disorders while securing greater economy.

Two new wards, for male and female in-patients, would be established in Middlesex Hospital, where patients will be treated by the medical staff of St. Luke's Hospital. A special out-patient clinic would be established for dealing with borderline cases, which would practically constitute a psychiatry section of the neurological department. So far as out-patients are concerned the plan involves close cooperation of the two hospitals and is a step toward a system which can and may be extended with advantage in other directions.

As was stated in the report of the court of governors of the Middlesex Hospital, among the chief reasons which led to the adoption of the plan was the marked disinclination among persons suffering from early mental disorders to consult the specialists at a hospital known to deal only with mental diseases. Such people were far more likely to attend a general hospital for treatment on the appearance of their first symptoms. Early treatment on the right lines went a long way toward effecting a cure; delay was dangerous, or even fatal, to a successful issue.

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Pure gelatine is a true food, a preserver of nitrogen, is easily digested and is readily burned in the production of energy."

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The leading hospitals in the country are constant users of Knox Sparkling Gelatine, and are unstinted in their praise of its dietary value.

It is put up in one and five-pound cartons for hospital use, as well as in the regular packages for home consumption.

***A trial order will gladly be sent to any hospital at eighty cents per pound***

**CHARLES B. KNOX GELATINE CO.**
**400 Knox Ave. Johnstown, N. Y.**

***"Always the Highest Quality"***

# DISPENSARIES AND OUT-PATIENT DEPARTMENTS

*Conducted by* MICHAEL M. DAVIS, JR., Ph.D., Executive Secretary Committee on Dispensary Development, United Hospital Fund of New York, and Chief, Service Bureau on Dispensaries and Community Relations of Hospitals, American Hospital Association, 15 W. 43rd Street, New York
*and by* ALEC N. THOMSON, M.D., Director of Medical Activities, American Social Hygiene Association 370 Seventh Avenue, New York

## FOLLOW-UP IN A SYPHILIS CLINIC

BY ALEC N. THOMSON, M.D., DIRECTOR OF MEDICAL ACTIVITIES, AMERICAN SOCIAL HYGIENE ASSOCIATION, NEW YORK, N. Y.

TODAY, in every syphilis clinic, we have some activity which may be classified as mainly non-medical, although it is not strictly social service either, according to the professional use of the term. Groping with human problems is what it really amounts to, making more personal the relationship between patient and physician by stressing the fact that a patient is a human being rather than a "case." In a word, it is the sum total of all the things that are done directly or indirectly through the syphilis clinic for the patient, the doctor and the community; the human element in clinic service, it might well be called. Although it has long been lacking, not only in the venereal disease service of out-patient work, but in more or less all branches, this is the phase of social service which is being emphasized today.

Out of the abstract problem of "irregular attendance," a human problem has arisen, that of "helping the patient to stick to treatment." But what holds the patient to treatment? This is the question which interests the physician. This is the question which must be answered in order to satisfy the demand of the health officer that the patient be held to treatment, and it should be the question which interests the social worker whether he is engaged in active work within the clinic or in the community. He need worry less about some of the details of the lives of patients in these times, and more about their emotional reactions; less about the home background of the patients and more about the way they are treated in the clinic. The reception given a patient when he applies for treatment, the way his particular needs are cared for, and the goodbye that is said to him as he leaves the clinic after each visit, these are some of the factors which will either disgust him with the clinic and his own lot, or make him take a new lease on life. If the patient is treated like a human being, he is likely to stick to treatment until he is cured. Otherwise, he will invent excuses. This is not a plea for sentimentality, but rather for human understanding.

How are we meeting this problem? As far as detail is concerned in approximately as many ways as there are different syphilis clinics throughout the country. The health department, however, has a certain function to perform, and reasonably demands that definite efforts be made to hold the patient to treatment during the period of disease for which the health authority is responsible. An attempt has been made to bring together into one suggestive set of forms, the various letters, cards, and notices which are in use throughout the country.*

In New York City, in 1916, the health department considered, through its advisory council on venereal disease, the need for making rules and regulations under which clinics could be controlled. The regulations, as issued in 1917, are standards, minimum in character, but practical for the purpose of judging and controlling.

### Compulsory Follow-Up in New York

Regulation 7 of the standards, referring to a syphilis clinic, says: "A follow-up system, approved by the department of health, to secure regular attendance by patients shall be established and maintained."

What kind of follow-up system will the department of health consider adequate, was the next question. In 1912, when an association of dispensaries known as the Associated Out-Patient Clinics was formed in New York City, one of its first and most active groups or sections was the section on genito-urinary diseases, skin diseases, and syphilis, to which the attending dermatologists and genito-urinary surgeons of the institutions belonging to the association were entitled to membership. The association made highly intelligent recommendations for conducting treatment clinics for syphilis and gonorrhea, and the equipment necessary for such treatment. These recommendations were the basis upon which the department of health formed its regulations for the conduct and maintenance of clinics for treatment and care of individuals infected with syphilis or gonorrhea. Section 223 of the Sanitary Code, which states that no public dispensary where communicable diseases are treated or diagnosed shall be conducted or maintained otherwise than in accordance with the regulations of the board of health, was emphasized by the Associated Out-Patient Clinics. The section on venereal disease devised a syphilis history card and a gonorrhea history card which have been adopted either in full or in part by several clinics, at the suggestion of the association. Results of these operations show that definite progress has been made towards uniformity in the instruction of patients, maintenance of equipment, keeping of records, and the like.

The great war interrupted the activities of the Associated Out-Patient Clinics, but only temporarily, for in 1920, they were resumed with additional vigor. Shortly afterward, the health department, recognizing that the sending of requests, threats or pleas by mail did not constitute an adequate follow-up system, asked the venereal

*Cleveland Survey, Part 5, Page 414; The Modern Hospital, March, 1921, page 284.

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# "America's Most Famous Dessert"

AMERICA'S MOST FAMOUS DESSERT
JELL-O
A MIXTURE
SPECIAL PACKAGE
NET WEIGHT 26 OZS
MAKES FOUR QUARTS
RASPBERRY
PURE FRUIT FLAVOR
VEGETABLE COLOR
This package makes four quarts of Jell-O. Serves forty to fifty persons according to size of portion.
Dissolve the contents of the package in four quarts of boiling water and set in a cold place to harden.
If only part of the contents is to be made up at one time, allow exactly one pint of boiling water for each 3½ ounces (100 grams) of powder.
Further directions of great importance are given on each of the two side panels of this package. Be sure to read them.
THE GENESEE PURE FOOD COMPANY
LE ROY, N.Y.

*Institutional Size*
*makes one gallon*

AND it is so acknowledged, particularly since there has come to be such a general understanding of the value of a sane diet in the preservation of health.

Jell-O is a sweet but not an added burden to digestion. It exactly fills the need of the adults who have come to the point of taking a little better care of themselves, or of the family that does not care to serve food in which children cannot join the grown-ups.

**The Genesee Pure Food Company**
*Two Factories*
*LeRoy N.Y.* *Bridgeburg,Ont.*

disease section of the association to determine just what an adequate follow-up system entails, and to make recommendations accordingly.

Most follow-up systems offered to the section as effective suggest the use of notes, personal visits, and police power. It was felt that results generally indicated some happy combination in the use of the mails, the worker, and the police, which might in part solve the problem of holding the patient to treatment. But the only way to justify this conclusion was to test it, to measure the effect of each type of effort upon the attendance of some definite clinic over a given period of time. Brooklyn Hospital was selected as the site by the venereal disease section of the Associated Out-Patient Clinics, and the work started in December, 1922. The Committee on Dispensary Development of the United Hospital Fund has supplied such funds as were needed to employ extra personnel for this demonstration, which is to be regarded as an experiment, and not as the operation of a model follow-up system.

The first three months will be devoted exclusively to the one factor in the follow-up system which the clinic used in its previous mode of operation, namely, the sending out of notes. For years, the follow-up system of this clinic has functioned on the "one note a week" basis, the last note being rubber-stamped, "Your Last Chance." It is the general impression that this method of procedure has aided considerably in persuading the patient to return for treatment when he would otherwise have "failed to stick." Notes are to be sent out during the first three months of the experiment immediately upon the patient's failure to report after his first visit. This means a total period of five weeks from the last visit of the patient before the case is terminated.

Certainly this experiment will prove whether the follow-up-by-mail system greatly influences patients to report for treatment. It may do away with the too frequent complaints that patients cannot read, that they do not give their correct addresses when registering at the clinic, that friends or neighbors open their mail, that communication by mail is too slow and too expensive, and that it is unsatisfactory from the point of view of the health department in controlling communicable disease.

During the following six months of the experiment other follow-up methods than merely sending notes will be employed. Thus it is hoped there may be cleared up the questions of how much the personality of the physician, the influence of the social worker inside and outside the clinic, the cleanliness of clinic quarters, and the efficacy and comfort of treatment contribute to better attendance. After these questions have been cleared up, it is hoped that certain practical fundamentals for a follow-up system in syphilis clinics will be presented to the department of health for its approval—a follow-up system which is flexible yet definite, effective yet economical, sufficiently adequate to protect the community yet human enough to attract and hold human beings who are in need of service.

## THE PHYSICIAN'S PERSONALITY

The editor of *National Health* (London) believes that the personality of the physician is a great factor in the success of a clinic for the treatment of venereal diseases, and that the psychology of the patient can by no means be left out of the count. Men coming for treatment are likely to become moody and morose, and it is exceedingly difficult to reconcile them to the tediousness of the necessary long course of treatment. For this reason the clinician must be sympathetic, dealing with the disease as with any other grave disorder. A callous manner will drive the patient to a quack. A doctor will fail of perfect success who is too busy to give the individual attention which is more necessary in these diseases than in others since the patient cannot ask others to help him as he would in dressing an ordinary wound, for example, or in applying remedies whose use implies to the public mind no discredit.

A too jocular and jovial manner, *National Health* says, such as belongs to a "type of general practitioner now happily dying out," will not impress the patient with the gravity of his disease and will leave him with a lighter heart than it is well for him to have. In avoiding the Scylla of flippancy, however, the physician must not drift into the Charybdis of lugubriousness and repel patients by preaching at them. Whatever sermon is delivered should concern the importance of obeying medical orders, not be a pointing out of moral lapses. The successful clinician must have tact, wisdom and administrative ability. He should be "the acme of punctuality," and should see to it that there is no favoritism in the order of admission. *National Health* continues:

"The cases are all of equal importance. Some people suggest that the entrance to the clinic should be a secret one. Secrecy itself would be likely to draw attention. These diseases should be treated as openly as possible; otherwise odium will still pertain to the unlucky victim of the disease and so be likely to deter him from seeking treatment. In the clinic, it would seem, lies a valuable opportunity for educating the incontinent on the dangers of venereal disease and of impressing upon such individuals the necessity for observing a continent habit."

## HOSPITAL RATES UP TO 15 CENTS PER DAY IN CHINA

It costs the majority of patients 15 cents a day for hospital and medical care at the Williams-Porter Hospitals, Tehchow, Shantung, China.

Since 10 cents is a good daily wage for the man fortunate enough to have a job, the hospitals cannot well charge the full fee of 40 cents a day which the patient's board, nursing, medical and surgical care really cost.

The rate of 15 cents a day applies to third-class patients who make up the large proportion of in-patients. Charity cases are provided for from a special fund, which is usually exhausted.

These facts are gathered from Mr. F. F. Tucker's annual report of the Williams-Porter Hospitals. During the year the mission hospital has had material improvements and additions which cost $2,000 gold, bringing the total investment in buildings and equipment up to $70,000, based on replacement value. A small private ward building has been erected during the past year, the upper floor of which is occupied by two foreign nurses; wide verandas have been added to the three ward pavilions, two of which are now used as nurses' homes; and a utility building has been constructed which houses the morgue and several horses and goats.

The hospital makes a feature of its goat dairy, the milk being used for patients. The annual report shows that during the past year there was acquired a fancy, full-blooded Toggenburg by the name of Superlative Roger. Other mission stations have been supplied goats from this hospital dairy and in more than a dozen towns of northern China, Williams-Porter Hospital goats are furnishing the milk.

A total of 891 in-patients and 16,176 out-patients have received treatment at the institution during the past year.

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ADMINISTRATION BUILDING, STATE HOSPITAL FOR INSANE, WARM SPRINGS, MONTANA. ARCHITECTS, ARNOLD AND VAN HOUSE, BUTTE, MONTANA. ENGINEER, I. J. SULLIVAN, SULLIVAN VALVE AND ENGINEERING COMPANY, BUTTE, MONTANA

## ENCOURAGING BETTER CLEANLINESS

Self-respect and the spirit of service are stimulated in hospitals where both apartments of attendants and quarters for patients are tastefully appointed and kept immaculately clean. Pleasing lines and proportions and stainless white surfaces in all Crane fixtures—for private bath or for operating room—inspire high standards of sanitation in their use and maintenance.

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# OCCUPATIONAL THERAPY AND REHABILITATION

*Conducted by* HERBERT J. HALL, M.D., Devereux Mansion, Marblehead, Mass., and MRS. CARL HENRY DAVIS, Advisor in Occupational Therapy, 825 Lake Drive, Milwaukee, Wis.
*Co-Editors:* LORING T. SWAIM, M.D., 372 Marlboro St., Boston Mass., and MISS MARY E. P. LOWNEY, Room 272, State House, Boston, Mass.

## OCCUPATIONAL THERAPY FOR ARTHRITICS

By LORING T. SWAIM, M.D., Boston, Mass.

Recently some rather interesting experiments in occupational therapy for arthritics have been carried on at the Robert Brigham Hospital on Parker Hill, Boston. So many arthritics are crippled with deformed and apparently useless hands that an attempt has here been made to reconstruct and increase the functional capacity of such hands by graded work.

At first, it was found that even the simplest kind of work, such as pulling wool, was beyond capacity. By persistent effort, however, nearly all cases were found to be able with practice to do this work. As soon as a patient could successfully and consistently pull the wool apart, and the hands had developed muscular strength to do this without undue fatigue and soreness, a small hand rake was used for carding the wool. This demanded more strength in the hands and forearms, but the progression was usually possible. The patients could see the progress. Feather bone baskets were then attempted, as this material was easier to work than rattan or reed, and did not have to be wet. This work with the various stitches required more delicate technique and coördinated use of the muscles of the hand, and was found to be the next logical step in the development of better functional capacity of the stiffened fingers.

It was interesting to note that as the work progressed, the joints instead of becoming lame became stronger and more supple, and the tone of the tissues improved. Next, rattan trays and rattan baskets were started, the rattan being softened more than is usual, so that the patients could work without too much effort. This developed more strength.

It is hoped that by this progressive use of muscles, the development of effectiveness in deformed hands will not only give the patients a new outlook on progressive work, but will actually reconstruct the hands so that they can be used for the ordinary purposes of life. Further development of the serial work, such as sawing, sandpapering, ultimately modelling and the use of tools, is planned.

The work has been very encouraging. The patients have cooperated, and it has been interesting to note that because of illness of the instructor and the cessation of work temporarily, the patients have asked to be allowed to keep on by themselves, even if the work has to be taken apart later because of mistakes.

It seems as though the field of simple bed work of this type for the definite purpose of joint and muscle development would be an increasingly valuable factor in the reconstruction of useless, arthritic hands.

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Those who bring sunshine into the lives of others cannot keep it from themselves.—J. M. Barrie.

## PAINTED FABRICS FACTORY FOR CRIPPLED "TOMMIES"

Sir Frank Benson is not only a famous Shakespearean actor, but a big-hearted patriot and idealist, and it is therefore not in the least surprising that he takes a keen and practical interest in Painted Fabrics, which two somewhat cryptic words represent the movement for disabled soldiers centered at a certain factory at Sheffield, England.

During the war Mrs. Geoffrey Carter, formerly an art student, performed nursing duties at a Sheffield military hospital. Finding that time hung heavily on the hands of some of the wounded, she set them to work painting artistic designs on fabric. This was found to be not only a popular amusement, but a great benefit to the men's health. Starting the movement in 1915, Mrs. Carter has since devoted herself to it. It was found that the work of the men was saleable, and originally the proceeds were devoted to the object of purchasing comforts for the hospital. Later a factory was established in which some thirty disabled men are now employed, and when funds are available a larger number will be provided with work there.

Sir Frank Benson was asked how he came to take up this movement for the disabled. He replied: "I don't know that I have taken it up—it has taken me up." Sir Frank explained that he was recommended to get some curtains for scenery done at the factory and thus heard the story of the plucky disabled men who are executing such remarkable work. He visited the factory and by recounting an incident of which he was then informed, gave a vivid idea of the marvels that are wrought there.

A disabled man came to Mrs. Carter and said: "I hear you give work to wounded soldiers?" "Yes," she replied, whereupon the man, holding up two stumps where hands should have been, said, "But you can't find a job for me." Mrs. Carter replied that she thought they could and inquiring if the ex-soldier had ever done anything with colors, found that as a child he had liked painting. She strapped a brush to his stump, gave him a box of colors and some canvas, and told him to see what he could do. Despite the physical disadvantage under which he labored, he made rapid progress in skill with the brush, and has become one of their best scene painters. All the men in the factory are terribly disabled; some have lost more than one limb and the hands of others are sadly maimed. But despite the pain they often suffer, they stick to their work with enthusiasm; they arrive before time and are in no hurry to "down tools," for the work is a joy to them. They have found not only occupation and happiness, but health and nervous strength. Life has come back to them with the zest they feel in their work.

An effort is made that all the work given to the men

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# The nurse has a good suggestion

*(The Superintendent and the Surgical Nurse were talking. Series IX.)*

"Good morning, Doctor."

"*Good morning, Miss Smith—What do you recommend for sterilizing bed pans in a hospital where they have only gas for heating?*"

"That's easy, Doctor; Install a Utensil Sterilizer next to a good slop sink and you have perfect facility for the work—and get a Castle by all means."

"*You sure are strong for Castle Sterilizers aren't you Miss Smith.*"

"Yes, Doctor, I am and there is a reason. They do what is expected of them. For instance, I've never seen a Castle Utensil Sterilizer with a lift that didn't work."

*Send for Castle Sterilizer Specifications*

CASTLE

*Complete line of Sterilizers for Physicians, Dentists and Hospitals*

WILMOT CASTLE COMPANY, 1151 University Ave., Rochester, N. Y.

shall be of artistically sound type; for that is the kind of task that improves their health; ugly work has been found to have an effect prejudicial to their recovery.

Sir Frank pointed out that often it had been found that disabled men who had been given dull, mechanical tasks in cotton factories and at the loom or the like, had been unable to continue it. Yet the artistic task had proved a great success, which showed that the artist was not such an unpractical, uneconomic person as he had often been made out.

Sir Frank remarked that it was fine to see these men, who had been in the forefront of battle, now in the van of the movement for bringing beauty instead of ugliness into everyday life. The pet scheme of the man was to have some sort of "garden city" factory in the smoke of Sheffield.

The men paint dress stuffs, bags, blotters, umbrellas, parasols, opera cloaks, and curtains. "They are," Sir Frank Benson remarked, "great gentlemen, for their courage is amazing, and they show in the factory just those fine qualities which won the war. They are full of kindliness and consideration."

During the tour of the Benson Shakesperean Company in South Africa and elsewhere sales were set on foot which resulted in the disposal of between £4,000 and £5,000 worth of the charming fabrics produced at the factory. *Times and Mirror*, Bristol, England.

## WORK CENTERS FOR TUBERCULOSIS CONVALESCENTS

In an abstract published in the *National Medical and Surgical Survey* of an article by Hans Haustein on tuberculosis in Scandinavia, the following interesting statement is made:—

In Norway, occupational therapy can be carried out better in sanatoriums than at home. An occupation cure sanatorium which shall prepare patients for the transition from a tuberculosis hospital to free active life is planned.

It will be remembered that at the recent meeting of the American Occupational Therapy Association in Atlantic City, the president-elect, Mr. T. B. Kidner, gave it as his opinion that the establishment of convalescent work centers is the next development which should be striven for in tuberculosis work in America.

## WHY FIVE AIDES FAILED TO GET JOBS THEY WANTED

A prominent occupational therapy worker recently has called attention to a series of letters written by occupational therapy aides in application for positions with physicians as chief therapists.

All of these aides were women and girls of good educational background who were applying for positions of responsibility. The letters were so notably unprofessional in tone and structure that the doctors addressed were prejudiced unfavorably.

Business and professional women in general realize that the first approach by letter to an employer counts greatly for or against the applicant. A number of the aides referred to in this article were recommended to doctors, applied for positions and then carelessly allowed the date of the appointment with a busy doctor to go by only to send a trivial excuse many days later.

In other cases, aides accepted other positions and neglected to notify the first employer waiting for an answer; others failed to answer letters at all, or worded letters in a tactless way so that the recipient was put in a negative mood toward the applicant. The following are five concrete examples:

CASE I.

Made no reply whatever to letters sent her.

CASE II.

Filed application for position, made definite appointment to take position for a month's trial; did not appear at date designated; did not write excuse, "illness in the family," until about three weeks after the date of appointment. Lost the position.

CASE III.

Filed application, wrote two letters in regard to the position. Dropped the correspondence with no final reply to the doctor.

CASE IV.

Wrote letters and filed application for a position. Was asked to come on trial visit. Made two definite appointments with doctor for a special hour of day. Failed to appear on either occasion. Later came the small excuses, "lost the train," "had an unexpected visitor."

CASE V.

Filed application for position of chief therapist; was being considered, as background was good; wrote a letter over-emphasizing the question of salary. The gist of the letter gave the impression that money was the main object, and not interest in the work. Applicant lost the position.

These cases, of course, do not represent the majority of occupational therapy workers, but in the particular cases cited the same doctors received a number of unbusinesslike letters. The carelessness of a few may give a wrong impression and bring out the criticism in certain localities that occupational therapists are unbusinesslke in their training and methods of hospital approach.

## THE ROLL CALL

### Illinois

Officers of the Illinois Society of Occupational Therapists for 1923 were chosen at the January meeting, as follows: president, Miss Katharine Staples; vice president, Miss Elsie Hassenstein; treasurer pro tem and corresponding secretary, Miss Lucille Guertin; recording secretary, Miss Grace Herbst.

Various changes in the personnel of the officers have taken place recently. Miss Kathryn Bartlett, vice president in 1922, was compelled to resign when she was transferred to the U. S. Veterans' Hospital at Sheridan, Wyo. Miss Marion Clark, chairman of the auditing committee, took a position in Michigan and Miss Spainhauer was appointed to take her place. Miss Winifred Brainered found it necessary to resign the treasurership and Miss Guertin was appointed to fill out her year.

Owing to the growing needs of the society, a complete revision of the constitution is being made by a special committee, and it will be presented to the convention at the regular meeting in late February.

### Manitoba

No report.

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# GLASS TUMBLERS

## *Mr. Hospital Superintendent:*

You will find at the end of a year, if the matter is checked up, that glass tumblers will actually cost you less money, than is the case, if drinking vessels made of any substitute material are used.

And when, in connection with this fact, you consider the many manifest advantages of glass, why hesitate as to the type of drinking vessel to use in your institution?

HAZEL ATLAS Tumblers are especially adapted for Hospital service; the glass itself from which they are made is of a texture that will enable you to sterilize the tumblers repeatedly for months without effect. In making the Tumblers a machine process is used by which the most durable ware ever turned out by the Glass Industry is produced. So that our Tumblers will stand up longest under the necessarily rough usage to which they are put in the ordinary every day work of an institution such as a Hospital.

### *Sold Only Through Merchants*

Give your supply house an order for HAZEL ATLAS Tumblers; When you get them, try them out thoroughly—check up the breakage for a definite period, then observe the saving effected by using our ware.

## HAZEL-ATLAS GLASS COMPANY

**Wheeling, West Virginia**

### Maryland

Offer of a room in which the Maryland Occupational Therapy Society may hold its regular meetings has been made by the Phipps Pyschiatric Clinic of Johns Hopkins Hospital. Vote on the acceptance of the offer and on the hour of the meeting has been taken by mail.

The following officers have been elected for this year: president, Mrs. Marshall L. Price; vice president, Miss Katharine Brady; secretary, Miss Mary Bennett Bean; treasurer, Miss Nell Berry; chairman of membership committee, Miss Elizabeth Angle; program committee, Dr. William Rush Dunton, Miss Freeman and Miss Gilpin.

At the December meeting held at the Medical and Chirurgical Faculty Building, Miss Stewart of Canada was the speaker.

### Massachusetts

Officers of the Massachusetts Association for Occupational Therapy elected at its recent second annual meeting are: president, Dr. E. G. Brackett; vice president, Dr. John D. Adams; secretary, Miss Marjorie B. Greene; and treasurer, Herbert Nash, Jr. The bureau director is Miss Harriett A. Robeson and the chairman of the bureau committee, Mrs. Horace Morison.

### Michigan

The February meeting of the Michigan Association of Occupational Therapy was held at the occupational therapy shops of the Juvenile Court Detention Home of Wayne County at Detroit. The previous meeting took the form of an inspection tour of the Cass Technical High School in Detroit and great interest was displayed in the modern equipment of the school plant. The metal and jewelry rooms were particularly interesting. The wood turning and working department of the school just opened last month.

Northville Sanatorium has installed a department of occupational therapy, of which Miss Ida Kerchoff, a Newberry House graduate, is the director.

Another graduate of Newberry House, Miss Hazel Baxter, has taken a position with the Psychopathic Hospital in Ann Arbor, as head of an occupational therapy department.

### Minnesota

Occupational therapy from three viewpoints was considered in an interesting program of the Occupational Therapy Association of Minnesota held on February 6 at St. Paul. Miss Julia Bradley of Fergus Falls State Hospital spoke on "Occupational Therapy for Mental Cases." Dr. Laird of Nopeming Sanatorium, St. Louis County, discussed the subject in its relation to the tuberculosis patient, and Miss Clark of Phalen Park State Hospital for Crippled Children, St. Paul, told of the work with children.

### Missouri

The Missouri Association for Occupational Therapy is glad to report that there is no shrinkage in the number of places demanding occupational therapy. During the last two months work has been opened in the Miriam Convalescent Home, Home for the Aged and Infirm Israelites, and reopened in the Night and Day Camp; the time for work has doubled at the Jewish Sanitarium. In addition to this, the work, of course, has been going on in the following hospitals for varying lengths of time: City Hospital No. 1, City Sanitarium, U. S. Veterans' Hospital, Barnes Hospital, Junior League Workshop, St. Louis Children's Hospital, St. Vincent's Institution, and Koch Hospital.

The Missouri Association for Occupational Therapy does not in all cases direct the work in these hospitals but it stands ready to offer any form of help or cooperation that is within its power. The St. Louis School of Occupational Therapy, which is, of course, directly under the directorship and support of the association, is full to capacity, and the advantages of its location at the Washington University school of medicine are even more numerous than had been hoped.

A Christmas sale of articles made by the patients in all hospitals and convalescent homes was held on December 11-18, at one of the downtown stores. Over $600 were the net results; the gross results were immeasurable for educating the public, as a part of the aim any sale should have.

### New York

No news to report.

### Ontario

No report.

### Pennsylvania

The occupational department at Harrisburg State Hospital is now under the charge of Mrs. L. Gaffney, chief therapist. Mrs. Gaffney is a Pratt Institute graduate and has had a practical background of social service experience, in addition to her work with ex-soldiers.

Women patients at Harrisburg are grouped into three sections. The more responsive types have their workroom in a cottage, originally presented the hospital by Dorothea Dix. Two classes, averaging twenty-five patients each, are carried on daily on the disturbed wards. Two groups of deteriorating patients also are at work on the wards. This brings the total number working daily up to 125. Mrs. Gaffney has three assistants, well trained attendants who have had experience in charge of wards.

On January 1 a new occupational department was organized at the Hospital for the Insane at Retreat. Mrs. Alice Messinger, the chief therapist, is a graduate of the Boston School of Occupational Therapy and has had practical nursing and hospital experience. The occupational work at Retreat is receiving enthusiastic support and it is hoped that it will develop progressively.

### Washington, D. C.

No news to report.

### Wisconsin

The fortnightly meetings of the Wisconsin Association have continued. After the meeting, members dine together after which they visit one of the social agencies of Milwaukee. In this way a splendid cooperation is developing between the occupational therapists and the social workers of the city.

The Junior League of Milwaukee held a Christmas sale of patients' work in December, and also a very successful Christmas party at the Columbia Hospital Curative Workshop. Members of the patients' families were invited to the party.

### National Home for Disabled Volunteer Soldiers

Headquarters has issued a circular of detailed instructions for occupational therapy in the National Military Home Service. This has been sent to all homes having occupational therapy departments, with the purpose of using these instructions as a guide in developing a definite and uniform standard for occupational therapy in the service.

The Pacific branch, Sawtelle, Cal., has recently added landscape gardening to the list of occupations prescribed

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The ARISTON Line

STANDARDIZATION OF
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IN HOSPITALS

IS ALWAYS Fine

Peas or Beans **BROSIA MEALS** "That Good Soup"

THESE delightful and wholesome foods make the best, easiest and most economical of soups.

The process of their preparation is interesting. The peas or beans are first dry steam cooked for 50 minutes, under pressure, in our special cooker. They are then rolled flat by machinery, and the hulls removed. Then toasted 15 minutes, to a nut brown. Then ground into meal.

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High in protein value: Peas 24.6% and Beans 25.7%, as compared to beefsteak 20.3%. Superior in fine flavor, too.

For the well, the sick, the convalescent. For diabetics. For sufferers from gout or rheumatism.

Useful also for thickening other soups and gravies, and in place of crumbs for breading chops, cutlets, etc.

Brosia Meals are made exclusively for our customers.

One pound goes farther than two or three pounds of whole peas or beans, and you save time, labor and fuel in preparation.

One pound of Brosia will make 4 quarts of thick soup, or 6 quarts of thin soup.

*Old Fashioned Pea (or Bean) Soup*
To 1 gal. soup stock add 1 cup Pea (or Bean) Brosia Meal. Sautè a few diced carrots, turnips, onions, and small pieces of salt pork; add to the soup and cook until the vegetables are tender. Then add 2 cups peas or navy beans. Season. Do not strain.

*Brosia Recipe Book on Request. Write for it.*

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All our goods are always pure and fresh.
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for patients in the occupational therapy department. In connection with this the patients are receiving instruction in such correlated branches as art cement, including the construction of garden benches, etc.

At the Marion National Sanatorium, the new building for the occupational therapy department was ready for occupancy the early part of November, so that the department is now permanently established in its new home. The abundantly lighted and well ventilated shops have made working conditions most satisfactory.

The occupational therapy shops in the new tuberculosis unit opened the first of January.

At the Central Branch, Dayton, Ohio, the occupational therapy shops in the new tuberculosis unit are being equipped with motor-driven machinery, and other equipment necessary for shops working with this type of patient.

The Dayton Art League has generously offered the resources of its school to those ex-service men in this hospital who are planning to take up some branch of industrial art as a vocation, when they are discharged from the hospital. They have further offered to make any possible contact with the occupational therapy department which will assist in the rehabilitation program for the disabled ex-service men, even to the point of sending their instructors to the hospital to lecture to the men. A program is being worked out, whereby such patients as are fitted for this training can reap the benefits of this generous offer.

In the occupational therapy department of the National Sanatorium, Johnson City, Tenn., the number of patients for whom the work has been prescribed has increased from 273 to 497 in the past month.

Poultry raising has been added to the out-door activities prescribed for the patients in the hardening process.

Miss Edith Bond, formerly instructor in the Henry B. Farvill School of Occupations, and later chief therapist at the Wesley Hospital, Chicago, is now in the National Military Home Service at the Pacific Branch.

Miss Myra B. Robinson of Chicago, a graduate of the Henry B. Farvill School, has accepted a position as occupational therapy aide in the home service, and is stationed at the Central Branch.

Miss Edith V. Evans, formerly connected with the occupational therapy department at Trudeau, N. Y., is now stationed at the Johnson City National Sanatorium.

Miss Sarah Kennedy, formerly superintendent of occupational therapy of City Hospital, St. Louis, Mo., is now with the Home Service, and is stationed at the Central Branch, Dayton, Ohio.

## FOUR DUTIES OF O. T. TEACHERS

Occupational therapy teachers have four main duties, according to Miss Elsie Taft, R.N., director of reconstruction aides at Walter Reed Hospital, Washington, D. C., in a paper read at the District of Columbia League of Nursing Education at a recent session.

The duties ascribed the occupational therapy teacher by Miss Taft are: toward the physician, toward the patient, toward the organization, and toward the outside world.

"The teacher's duty toward the physician," said Miss Taft, "is that of filling his prescriptions for his patients. Theoretically and ideally, the physician prescribes the kind of work he wants given his patients. Practically, the physician is so busy keeping up with the latest discoveries in special diseases that he has very little time to keep abreast of developments in occupation therapy. Just as no physician would engage an expert dietitian and then do all the cooking himself, no more would a physician engage a trained occupation teacher and reduce her activities to the level of his own knowledge of crafts.

"The duty of the teacher toward the patient is instruction and diversion. For curative work she must have knowledge of anatomy, of disabilities, and of the application of different kinds of work as treatment for disabilities so clearly in her mind, that she can judge accurately and without hesitation which particular form of work suits the individual case. She must see that the patient is regular in attendance; she must stimulate his desire to recover or master his difficulty; she must try to put him on work that he will desire to continue afterward as a vocation or as a hobby, and she must encourage his feeling of self esteem by letting him fill orders or do work which people are willing to pay for. To use occupations as a means of serious instruction as well as of diversion for the patient, the aide needs not only an attractive personality, but also a knowledge of salesmanship.

"The duty of the teacher toward the organization is primarily cooperation; her success in the institution depends upon that, but the scope of her work should include more than pleasant cooperation. The aides at the Walter Reed General Hospital have established a system, which though entirely separate from that of the social service aides, by working along some of the same lines and in closest cooperation, is a recognized factor in the morale work of the hospital. They do much in a quiet way to safeguard the health of the patients. They endeavor to replace gambling with saner forms of entertainment; they dissuade patients from leaving the hospital before the surgeons are willing that they should go; they are constantly on the watch for signs of bootleggers, undesirable looking visitors, for pernicious influences of all sorts that creep into a big hospital where there are many convalescent young men.

"Toward the outside world the teacher's duty is to send the patients out of the hospital better citizens than when they came in, in better health, with something added to their education, and with their ideals developed."

## CALLS ATTENTION TO ERROR

Miss Hannah Curtis, director of social work of the Massachusetts department of mental diseases, takes exception to the subheading in her article on "Social Service in the State Hospital" published in the November issue, which reads "patients cured as social service develops." It should have read "increased number of out-patients under social service." Inasmuch as social service makes no claim to cure mental patients, Miss Curtis feared that the subheading would give a wrong impression that might seriously handicap the development of state hospital social work in some places.

"Books are masters who instruct us without rods or ferrules, without words or anger, without bread or money. If you approach them, they are not asleep; if you seek them, they do not hide; if you blunder, they do not scold; if you are ignorant, they do not laugh at you.—Richard de Bury.

"In life insurance and such like societies, were they instead of having the persons examined by a medical man, to have the houses, conditions, ways of life, of these persons examined, at how much truer results would they arrive."—Florence Nightingale.

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**Digestibility Note—**

*Purity Oats is the oats from which the bitter, indigestible tip of the groat is removed—*

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than any other rolled oats,—because it is the only rolled oats whose every flake is a masterpiece of manufacturing. That is—no bitter, oily tip left on the groats, to interfere with digestion and make the product grow rancid. No hulls. No shorts. Rarely even a broken flake.

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# FOREIGN CORRESPONDENCE

## ST. ANDREW'S CLINIC

(BY OUR LONDON CORRESPONDENT)

PERHAPS no one in the world has done or is doing more for the future of medicine than Sir James Mackenzie, who, taking all things into account, is the most outstanding preventive physician of the world and from the medical point of view the one who has the most original ideas.

Mackenzie's first claim to fame was his investigations and discoveries which revolutionized knowledge of the heart and its manner of working, its diseases and disabilities and consequently its methods of treatment. Most of Mackenzie's views concerning the heart were gained by patient investigation and persistent clinical observation while practising as an ordinary general practitioner in an uninteresting and somewhat sordid cotton town, Burnley, situated in the cotton mill district of Lancashire. After a time MacKenzie made so great a reputation that he was persuaded to come to London, where he lived for a few years as a consultant and heart specialist.

Soon after the end of the war he retired to St. Andrew's, Scotland, where he has founded an institute to give effect to the ideas for tracing the causes and beginnings of disease. His views are somewhat as follows.

### General Practitioner Essential

While giving due credit, to the value of laboratory methods, he points out that the human body cannot be successfully treated in fractions, and that bacteriologists, chemical analysts, etc., cannot take the place of skilled doctors who treat the patient as a whole, or, to express the situation in other words, who treat the patient and not the obvious symptoms which he exhibits. Mackenzie urges with much force that the human body is not a departmental affair, but that its organs act and react upon each other. For example, heart trouble may not be, very frequently is not, due to a defect of that organ, but some underlying cause perhaps present in a remote part of the body. He voices the fear that in a mass of detail the profession may overlook general principles.

Mackenzie argues also that students cannot be adequately trained by professors and laboratory experts alone, and that those intended for general practitioners should receive further instruction from men of wide experience in general medical work. He makes the startling statement that general practitioners were unrepresented on the commission to consider medical education and that no general practitioner was called as a witness to explain in what respects the class had found by practical experience their own education to be defective. He contends that the investigation of the causes and beginnings of disease is the crying medical need of the present day and that for this purpose general practitioners who have the opportunity for studying patients over long periods are the only ones who can carry out such investigations properly. He asks how one can find out the manner in which a disease originates if one only studies the patient when it has reached a more or less acute stage or after the patient is dead?

### Watches for Cause of Disease

Minor ailments may be the origin of more serious diseases, and Mackenzie points out that in hospitals the lesser ailments are necessarily treated by novices in the outpatient department; moreover, conditions make it impossible to keep a record of each patient over a series of years. In his opinion this can be done only by observant general practitioners who have been trained thoroughly in the practice of diagnosis, and he and the staff at St. Andrew's are engaged in teaching medical practitioners how to become skillful in this direction. To put the matter in a nutshell, the ordinary method is to begin with the disease and work back to find the cause. Mackenzie holds that the proper method is to watch for the cause and work up to the disease. He does not, however, underestimate the value of laboratory work which has done so much in the way of prevention and cure. His argument is that the two systems must work together for the common end. For the purpose of diagnosis and treatment the doctor must still rely in a great measure upon the intuitive knowledge of the symptoms of disease which can only be derived from long experience in dealing with the sick. At the Andrews' Institute, Mackenzie and his staff are working on the following lines:

1. The investigation of diseases before the occurrence of any structural change in any organ of the body, with a view of providing a diagnosis at a period earlier than is possible by the methods now in use.

2. The investigation of minor symptoms and maladies which interfere with efficiency or comfort with the object of determining: the mechanism of their production, and their bearing upon the future health of the patient.

3. The study of the conditions under which the patient lives such as food, work, and surroundings.

4. The recording of cases and keeping in touch with the patients who have been seen with the aim of discovering the relation between environment, ailments and subsequent disease.

5. Follow-up of patients in order to observe the outcome of complaints.

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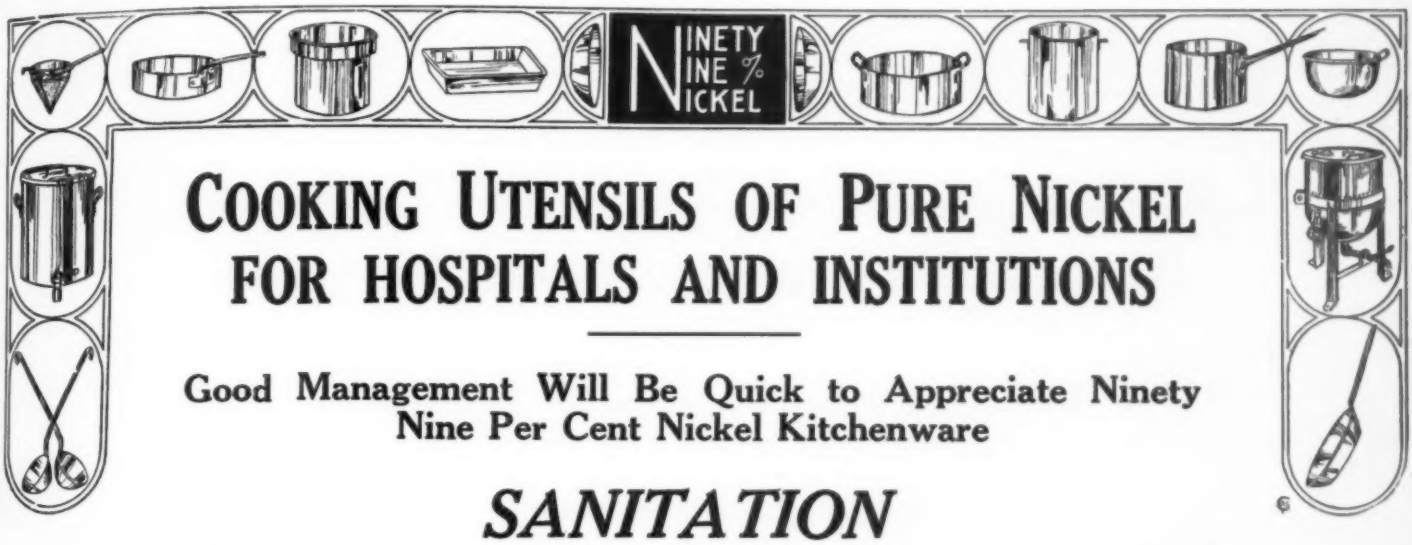


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**Ninety Nine Per Cent Nickel** is absolutely sanitary for it will not rust or corrode, no verdigris or other poisonous substance forms on it. No coating to chip off, no cracks to form where food can lodge. No pits or rough surface that make it hard to clean. **Ninety Nine Per Cent Nickel** can be cleaned or scoured with a minimum of time and effort. It is therefore always bright and clean.

Foodstuffs, both cooked and uncooked, may be left in it for any period without fear of contamination from the metal. Will not form injurious compounds with fruit or vegetable acids. The finest, most delicate of sauces may be cooked in it without changing color.

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**Ninety Nine Per Cent Nickelware** is economical. It has a greater tensile strength than steel, is almost wearproof, and will not become pitted or warped. Heats rapidly and evenly, and will retain its heat, and can therefore be kept hot at a minimum of fuel expense. Needs no metal polish to keep it shining.

There is no retinning to be done to nickelware. The cost per year, for the upkeep of ware that has to be retinned is approximately 10% of the original cost. There is no up-keep to **Ninety Nine Per Cent Nickel**—it is guaranteed. The first cost is the last cost. ¶ Can you afford to own any other ware?

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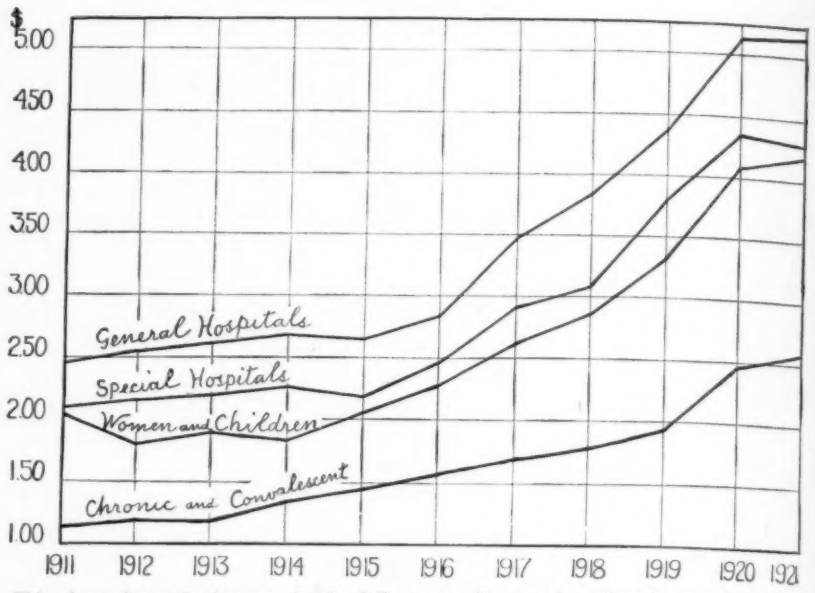
Through the Child Welfare Center the staff will be able to obtain records of all infants born in the district and continuous records of their health as they grow up to maturity. The common diseases from which people suffer are not, as a rule, those which cause death. Ailments of the digestive system amount to 25 per cent of consulting room cases, but only six per cent of deaths are due to that cause.

But it must always be borne in mind that grave diseases frequently originate from affections of the gastro-intestinal tract. Sir Arbuthnot Lane, another man of original mind, for years has been insisting that a long list of serious maladies, including forms of cancer, originate from intestinal stasis and the subsequent auto-intoxication which it brings about.

Sir James Mackenzie's views, of course, are of a preventive nature. His idea is diagnose quickly and accurately and treat efficiently so as to nip the process in the bud. But in order to carry out these views adequately the medical practitioner requires not only infant welfare and maternity centers, but the establishment of small hospitals in all parts of the country and a reorganization and coordination of the existing system. The hospital service of an area should be brought into much closer relation with the medical practice of the area. Some practitioners should be on the staff of the hospital, all should look to it as a center both of education and assistance in the discharge of their professional work, and all should be enabled to send patients to its wards, not only the critical or surgical cases as now, but many others that really stand in need of efficient hospital treatment, observation, dietary, nursing, massage, etc.; in order to treat efficiently the beginnings of disease which have been diagnosed by the general practitioner.




This chart shows the increase in the daily per capita cost for all patients, private and ward, in the fifty-eight hospitals of the United Hospital Fund, New York City. Cost for all classes of patients has doubled in the ten years.

## Scheme Calls for Small Hospitals

The hospital system in Great Britain should be enormously enlarged so as to include among its patients the middle class, the members of which at the present time are unable to derive benefit from the services of the hospital which are open to the poor. As has been constantly emphasized in these letters the pay system should be introduced into British hospitals, not as now in a tentative and timid manner, but on the same scope and scale as in America. Let each pay according to his or her means. As the editor of the *Lancet* wrote some time ago: "The prevention of disease is as much the role of the practitioner as the cure and care of patients."

This is the era or the commencement of an era of preventive medicine and Sir James Mackenzie's views are essentially preventive. Hospitals must take a part in these methods of prevention; indeed their adequacy in numbers and efficiency are absolutely necessary to its success. The future of medicine in this country lies in its hospitals, and it will not be long ere a much larger proportion of the population will be treated in hospitals for all kinds of ailments and diseases from which all sorts and conditions of men and women suffer.

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There is no country in the world in which everything can be provided for by the laws, or in which political institutions can prove a substitute for common sense and public morality.—De Tocqueville.

## NEW SWEDISH SANITARIUM AT DENVER

A new $400,000 hospital for persons of every nationality and creed will be built in Englewood, a suburb of Denver, Colo., by the Swedish National Corporation, according to the announcement made by the officers of the corporation.

The first three units of the hospital will be started early this spring, but the institution is not expected to be complete for about four years. The completed hospital will cover approximately two blocks, being bounded by South Clarkson and South Pearl streets and Girard and Hampden avenues.

When completed the hospital will include thirteen buildings, accommodating 125 patients. There will be six pavilions, an administration and medical building, a recreational hall, a dining hall, a power plant, a laundry, a nurses' home and other buildings.

The project is being financed by five denominational churches and several fraternal organizations. It is to be operated on a non-profit basis, according to the officers of the corporation, and will be a national institution with no distinction made as to creed or nationality.

The Swedish National Sanitarium now occupying the site where the new buildings will be erected will be torn down.

---

"It is not the critic who counts," said Theodore Roosevelt, "not the man who points out how the strong man stumbles or where the doer of deeds could have done better. The credit belongs to the man who is actually in the arena; whose face is marred by dust and sweat; who comes short again and again because there is no effort without error and shortcoming, but who does actually strive to do the deeds; who does know the great enthusiasm, the great devotion; who spends himself in a worthy cause who at the best, knows in the end the triumph of a high achievement, and who at the worst if he fails, at least fails while daring greatly, so that his place shall never be with those cold and timid souls who know neither victory nor defeat."

---

"Keep your fears to yourself but share your courage with others."—Robert Louis Stevenson.

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# Be SPECIFIC, EMPHATIC, and DEMAND *Armour's* When Prescribing ENDOCRINES

Armour's LABORATORY PRODUCTS

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# BOOK REVIEWS AND CURRENT HOSPITAL LITERATURE

## ORAL ROENTGENOLOGY

By Kurt H. Thoma, D.M.D., Assistant Professor of Oral Histology and Pathology; Member of Research Committee, Harvard University Dental School. Second edition.[1]

Dr. Kurt H. Thoma in his book "Oral Roentgenology" is filling a demand that is realized more at this time than ever before and will continue to increase in importance as the subject is investigated further.

Oral roentgenology is the key to so many phases of difficulty in other regions of the body that it is being employed to a greater extent in connection with various branches of medicine and surgery, particularly in reference to focal infection with its remote results. Also of importance is a more complete knowledge of local conditions which necessitates a broad experience with pathological process both in bone and soft tissues. Dr. Thoma's treatise indicates an excellent perspective of the situation and he has handled the subject in a logical way, beginning with an exposition of normal tissue and the normal processes for comparison with tissue changes by pathological processes.

Much progress has been made recently in the selection of treatment of the various pathologies. Full knowledge of the result of treatment is required from time to time to direct intelligent care of these conditions.

The student is enabled to grasp Dr. Thoma's conception of the subject by the excellent style of the descriptive work; his illustrations also are exceptionally good, showing a clearness of detail not often found. This book is valuable not only to roentgenologists, but also to dentists and internists and will prove a valuable addition to the books in almost constant use.—S. J. A.

## ANIMAL PARASITES AND HUMAN DISEASE

By Asa C. Chandler. Second Revised Edition[2].

Doubtless every biologist who gives a course in animal parasitology has wished for the presentation in a textbook of the general principles of parasitology, (the biology of parasites, the interrelationship of parasite and host, etc.), rather than a mere catalogue of the known species of parasites of man, as many of our textbooks on the subject have a tendency to be.

This need has been more nearly met by Dr. Chandler in the present book than in other modern textbook of parasitology. A still more frequent use of general biological principles and of our knowledge of parasites other than human ones would have substantially added to the value of the book to all addressed, the lay reader, the physician, the public health officer, the nurse and the college or university student.

Of the more important changes and additions in the new edition, the reorganization of the account of the amoebæ is particularly noticeable. The organization is superior as well as up-to-date. Although the author corrected his earlier statements concerning the life history of craigia on page 132, he failed to make a similar correction on page 35. The illustration of endamoeba gingivalis (on page 145 of the first edition) is missed.

Of the other changes the practical aspects of certain chapters merit especial mention. The methods for the detection of the parasitic worms are of recent development, and while the methods for the control of fluke diseases are new they will require extended application before general acceptance.

The typographical errors noticed by the reviewer are few. Malinston on page 7 should be Malmsten. Apparently in the attempt to add new material on the control of flukes without changing the paging of the book, a part of a paragraph on the life history of flukes was omitted at the top of page 212.

There are two rather important changes that we could have hoped for in this edition. In the first place, the chapters on the protozoa should be rearranged so as to conform to the usual zoological arrangement of the classes of protozoa as the author gives them on page 36. Secondly, the logic of arrangement is again lost in the presentation of the parasitic diptera. The "General Structure and Life Histories of the Diptera" on pages 463-466 follows the chapter on "Mosquitoes," pages 424-462. Even though the mosquitoes occupy a position of sufficient importance to be considered separately, they can be better comprehended if they are introduced after the general characteristics of the diptera have been presented. This suggestion would make the account of the diptera conform to the excellent organization in the chapters on "Bedbugs and their Allies," "Lice" and "Fleas."—B. H. W.

## PRINCIPLES AND PRACTICE OF X-RAY TECHNIQUE FOR DIAGNOSIS

By John Metzger, M.D., Roentgenologist, School for Graduates of Medicine, Medical Department, University of Southern California, Southern Division, Los Angeles. With 61 Original Illustrations[3].

Dr. Metzger's "Principles and Practice of X-Ray Technique for Diagnosis" is received with pleasure.

The various topics are treated with ability and with clearness which makes this book of great advantage in perfecting technical work. The book does not go into the excessively technical features of the work and so renders it more valuable as a hand book for constant reference.

The reader is assisted in visualizing arrangement of apparatus to good advantage. The ideal positions for radiographing various portions of the body are well shown

[1]Lea & Febinger, Philadelphia, 1922.
[2]John Wiley and Sons, New York, 1922.
[3]The C. V. Mosby Company, St. Louis, 1922.

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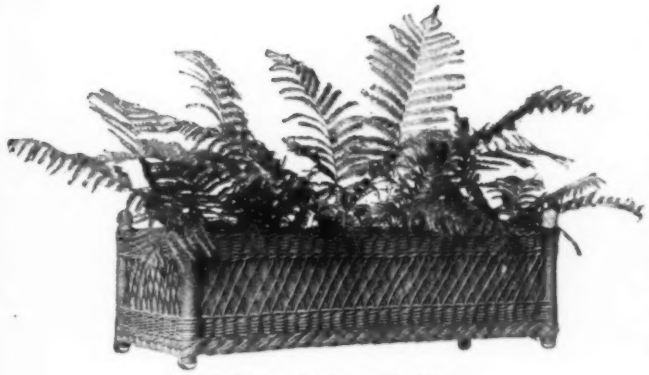

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by excellent cuts. This is of great value in getting clearness of detail of the portions to be examined by radiographing in such position that the minimum overlying shadows are caused.

Some specific paragraphs are to be mentioned some of which are possibly incomplete in their discussion; also question is raised by certain of the statements. In the author's discussion of the factors in radiographing, he makes the statement that "the time is inverse to the square of the distance," while it seems to the receiver that the time is increased directly as the square of the distance, while the x-ray intensity varies inversely.

The point gap is mentioned as varying with atmospheric condition. If the point gap is to be used as a method of measuring voltage, an important factor not mentioned is the character of the points. In fact the spark gap method is so liable to error that the operator should be advised to determine as early as possible certain points on his resistance or auto transformer which gives him proper voltage for the desired degrees of penetration.

Other assistance might be included as in radiographing the hip joints by rotation of the thighs inward to afford better views of the head and surgical and anatomical necks. In bone or chest stereos the direction of shifting the tube is sufficiently important to merit mention. In radiographing the knee joints if the condyles are superimposed a view is obtained with the least distortion of the joint.—S. J. A.

## "ONE-MAN CONTROL" IN ILLINOIS

A Valuation of a System for the Administration of State Institutions through One-Man Control as Operated in Illinois. Made for the New York State Charities Aid Association by Henry C. Wright. With Introduction by Homer Folks. United Charities Building, New York, November, 1922.

With an introduction by Homer Folks, the directing genius of the New York State Charities Aid Association, Mr. Henry C. Wright's report of his study of the one-man control of state eleemosynary institutions as practiced in Illinois has made its appearance. The State Charities Aid Association, for a number of years, has watched the evolution of the management and administration of state charitable and penal institutions and has made careful inquiry into each step. A number of years ago Mr. Wright made an investigation of the state board of control plan, as compared with the decentralized system in Indiana.

The new system in Illinois became operative July 1, 1917 when Governor Lowden's civil administrative code went into effect. This code reorganized the executive department of Illinois on the cabinet or departmental plan. All of the state's charitable and penal institutions and allied agencies were grouped in the department of public welfare, with a single director serving as a member of the governor's cabinet in control. At the time Mr. Wright made his investigation, the new system had been in operation about three years, during which period no political changes had taken place in the state.

Mr. Wright's report is even-tempered and judicial. His most serious criticism of the Illinois system is its susceptibility to political exploitation. He also questions the method of purchasing supplies, of making major repairs and of erecting new buildings. Under the code, purchasing for all state departments, including the institutions, is centralized in a superintendent of purchases, a division of the department of public works. Repairs are made and new buildings planned and erected by the state architect, also a division of the same department. Theoretically such a plan is faulty, in Mr. Wright's opinion. The fact that these faults had not developed up to the time of his inquiry is nothing in favor of the system.

Mr. Wright collected samples of staple foods in certain Illinois state hospitals. These he caused to be compared with the same foods collected at state hospitals in Indiana. On the whole, taking prices and qualities into consideration, the comparison is a trifle favorable to Indiana, where the supplies are contracted for and passed upon by a committee composed of superintendents.

Mr. Wright is fearful of political interference with these institutions under the departmental system. He fears that with every new administration there will be changes in personnel, involving not only the director but the members of his staff who should be technicians, professionalized and under civil service protection.

In summing up Mr. Wright says that the institutions are clean; the buildings are in a reasonably good state of repair; and patients are well fed and clothed. Although the purchasing and receiving of supplies are not so well done as they should be, such shortcomings do not materially affect the welfare of the patients or the rights of the taxpayers. He found no conflict between departments or divisions. Action is direct, results are speedily attained and the system has secured distinct economies, he concedes.

In some states, Mr. Wright continues, good work has been done at particular institutions by alienists and criminologists. The work done by these officers in Illinois probably does not exceed in quality that done elsewhere, but it is more noteworthy in Illinois since it applies not only to those in institutions but also to those who are possible subjects for institutions. In other words, theirs has become a statewide function. "The atmosphere in the institutions of Illinois," he says, "is distinctly curative rather than custodial." If political interference exists, he says, it is "so tempered or so incidental that it has not notably affected progressive program of work." That there has been little political interference has been due, he believes, not to the system but rather to the governor (Lowden) "who placed the welfare of patients and inmates above political gain." Mr. Wright contends that the chief test of a government's system "is the results it secures over a long period involving many political changes." Such a test can not be applied in Illinois since the system had been in operation but three years at the time he made his investigation, which was in the summer of 1920. Near the end of his report, Mr. Wright says "though the system is producing unusually good results in a short time, there yet remains the question, will the good results continue? May not men in politics look on the system with covetous eyes? It would be difficult to devise a system better adapted to make effective political control . . . than the Illinois system."

The Illinois system has "undoubtedly produced good and speedy results" but the New York and Massachusetts systems have done likewise. "In these states processes have been slower but at the same time more sure."

In July, 1922, after Governor Small had been in office eighteen months, Mr. Wright added, the superintendents of four state hospitals for the insane have been displaced and the positions filled by doctors from general practice. The heads of four other institutions have been replaced by "laymen with no training or recognized qualifications." These facts seem to convince Mr. Wright that the Illinois system is susceptible to political exploitation. This is the chief defect that he finds in it.—A. L. B.

Diseases crucify the soul of man.—Burton.

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